



REPORT

ON THE

Health of the County Borough
of Belfast,
for the Year 1933

BY

The Medical Superintendent Officer
of Health.

Belfast :
Printed by S. C. ALLEN & COMPANY, LTD.,
CORPORATION STREET WORKS.

1934



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BY

CHARLES S. THOMSON, M.D., (Glasgow) : M.R.C.P. (Ed.) :

D.P.H. : B.Hy. (University of Durham)

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County Borough of Belfast

PUBLIC HEALTH COMMITTEE,
1933

Chairman :

Alderman J. DUNLOP WILLIAMSON, M.D., J.P.

Deputy Chairman :

Alderman ROBERT PIERCE.

Aldermen :

JAMES ARCHIBALD DORAN, J.P.

HARRY C. MIDGLEY, M.P.

ROBERT PIERCE.

JAMES DUNLOP WILLIAMSON, M.D., J.P.

Councillors :

HUGH ARMSTRONG.

JOSEPH MAGUIRE.

THOMAS LOFTUS COLE.

THE RIGHT HONOURABLE THE LORD
MAYOR (SIR CRAWFORD McCULLAGH,
D.L., J.P.)

WILLIAM DOWLING.

THOMAS HENDERSON, M.P.


WILLIAM WALKER MacCLEARY.

JAMES KILPATRICK.

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WILLIAM JAMES WILLIAMSON



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COUNTY BOROUGH OF BELFAST—1933.

Summary of Vital Statistics.

Area (Census 1926) (Exclusive of 1,723 acres of tidal water)	14,797 acres.
Population (Census 1926)	415,151
Number of Houses in the City	97,600
Number of Inhabited Houses	96,663
Number of Uninhabited Houses	937
Number of Families or Separate Occupiers (Census 1926)	89,724
Average Number of Persons per Family (Census 1926)	4.58
Density	28.1 persons to an acre
Length of Public Streets	285 miles, 254 yards
	Back streets and passages repairable by the Corporation and used for vehicular traffic—70 miles, 1,117 yards.
Rateable Value at 1st April, 1933	£1,915,565 13s. 0d.
Id. Rate was estimated to produce	£7,450 0s. 0d.
Cost of Public Health Services	Public Health Committee £51,551. Maternity and Child Welfare Committee, £9,341. Tuberculosis Committee, £39,195
Marriages	3,052
Marriage Rate	7.4 per 1,000 of the population.
Live Births Registered	8,599
Still Births (not registerable but notifiable)	442
Live Births notified	9,024
Birth Rate (Reg. General)	20.7
Birth Rate average for the ten years, 1924-1933	22.7
Deaths registered	6,318
Death Rate	15.2
Death Rate average for the ten years, 1924-1933	14.3
Death of Infants under one year of age	880
Infant Mortality Rate	102 deaths per 1,000 births.
Average for the ten years, 1924-1933	102 deaths per 1,000 births.
Number of Women dying in, or in consequence of childbirth—	
From Sepsis	8
Other Causes	31
	(Notification of Deaths—Not Registrar-General's figures).
Deaths from Epidemic Diseases	558
Death Rate from Epidemic Diseases	1.3
Deaths from Measles	78
Deaths from Whooping Cough	33
Deaths from Diarrhoea and Enteritis under 2 years of age	165
Deaths from Phthisis	429
Death Rate from Phthisis	1.03
Total Deaths from Chest Affections	1,617
Death Rate from Chest Affections	3.90

PUBLIC HEALTH DEPARTMENT
CITY HALL,
BELFAST.

March, 1934.

*To the Right Honourable the Lord Mayor, Aldermen and Councillors
of the Belfast County Borough.*

My Lord Mayor, Aldermen and Councillors,

I have the honour to present to you my 5th Annual Report dealing with the health and sanitary circumstances of the city.

Public Health is a way of life and the health of the city of Belfast will improve in direct proportion to the knowledge of health matters, and to the application of the principles of hygiene made by the citizens. There are certain fundamental matters which have received serious attention in the past, and which are receiving continuous care. We are to-day reaping the benefit of such attention, for example, domestic sewage is conveyed away from houses by the water carriage system. Of the 97,600 houses in the city, only some 250 are still on the conservancy system, and this is due to the fact that these are outlying houses which do not come within the statutory distance from a sewer, and therefore cannot be required to link up with the sewerage system, and the provision of sufficient water closets. This subject is receiving the attention of the appropriate Committees. Next, it is essential that domestic refuse should not be allowed to remain in the vicinity of houses, and consequently, the old order of ashpits is steadily giving way to modern ashbins. Fewer than 1,200 houses now have ashpits in use.

The public water supply of Belfast is highly satisfactory, and there are not many houses which do not derive their water from the Belfast Water Commissioners supply from the Mourne, Stoneyford, and Woodburn.

In the North Division of Belfast there is a small number of houses which derive their supply from springs in Cavehill; this is piped into concrete tanks in the plantation above the Castle, and is then piped into the houses, six at Martlet Cottages, four at Martlet Towers, Cavehill Post Office and so forth. This supply has given every satisfaction, but it behoves us to test the same from time to time to satisfy ourselves that all is well. Similarly water other than the supply common to the city as a whole is supplied to some seventy houses in the West Division; these are situated near the City Boundary on high lands and they adjoin the slopes of Wolfhill, Squires' Hill and Black Mountain. The supply is from mountain streams, springs and wells. While the houses near to the source are pretty sure of an uncontaminated supply, the risk of contamination increases the further the house is situated from the source, as the water passes through grazing lands. Development in this area is slow, hence the absence of the Water Commissioners' mains. In the South Division there are seven houses and one factory which have a water supply other than the usual city supply. Three of these houses obtain a supply from a neighbour, and the others from a spring in the vicinity of New Forge. A record is kept in each case in this Department, and the areas are:—Springfield Road, Whiterock Road, Glen Road, Ballygomartin Road, and Glencairn Road.

Now these three things, the water supply, the water carriage system and the steady abolition of ashpits explain why it is that the City of Belfast rarely has a case of Typhoid (Enteric) Fever. I have opened my report with a statement as to education in health matters. Can we, I ask you, find a finer example of the health fruits which have accrued unto us for the wise measures taken in the past? We must ask ourselves whether there are any conditions which can be altered by taking steps on preventive lines of a similar kind. Certainly there are. Take infectious disease, for example, and take our still high (though improving) infant mortality rate. In the field of infectious disease it is said that we always have Scarlet Fever in Belfast, and that during the last three months of the year Scarlet Fever becomes epidemic; this is largely true, and I have discussed the reasons repeatedly. Again, it is recognised that, relatively, we do not get many Diphtheria cases. Thanks, I believe, to the long spell of dry weather, we had an increase in the number of Diphtheria cases in the fourth quarter of the year. What makes matters worse is that many of these have been of a virulent type.

Take these two diseases—Scarlet Fever and Diphtheria—can we do anything more than we are doing to reduce their incidence? Assuredly we can. While in London, I ran a Clinic for the purpose of immunising toddlers against Diphtheria. Immunisation has been adopted by hundreds of Local Authorities, and we cannot afford to delay the introduction of this work. Provision should be made for the immunisation of toddlers against both Diphtheria and Scarlet Fever. This is a pre-school age matter, and therefore definitely comes under the auspices of the Maternity and Child Welfare Committee. I am confident that I have only to mention this to ensure that it will be enthusiastically taken up, and the necessary provision of additional medical assistance made to commence this work. Either Dr. Barron or I will gladly begin the actual necessary inoculations. I do earnestly stress this matter, and I would suggest that medical men from other authorities in Northern Ireland should attend our Clinic once it begins, and so diffuse the knowledge of this urgent and clamant need. This splendid work, the enlightened outlook of the Maternity and Child Welfare Committee is marching ever onwards, and I know that they will maintain the dictum in this connection that “prevention is better than cure.”

Another matter that requires urgent attention is that of Housing. Before I speak of insanitary areas, turn for a moment to the work which has actually been done by the staff. There are approximately 97,600 houses in the city. During 1933 there were 19,561 house-to-house inspections (routine—not on complaint): there were 48,070 re-inspections of the same houses, and in addition, 24,237 inspections were made for specific purposes. Total, 91,868. In addition to these there were 3,241 house inspections where infectious disease occurred, with 1,841 re-inspections. Under the Tuberculosis Act a total of 523 inspections of houses were made. Grand Total, 97,473. We discovered 20,670 nuisances and 14,925 were reported to us. Total, 35,595. We saw to the abatement of 31,465 of these; in many cases where complaints were made of nuisances no nuisance was found to exist on inspection, consequently no notices were served. Here let me pay my tribute to the Divisional Officers, Messrs. Sefton, Boyd, Dennison and Shannon; these men and their juniors have done excellent work during the year; they have responded most willingly and given yeomen service. Every morning I go into the list of complaints received and allocate these to the Divisional Officers; every Thursday morning I make investigations into every complaint received, and with respect to every nuisance discovered during the previous week, and every Saturday I investigate as to whether, and, if so, why there is any nuisance of whatsoever kind that may be outstanding beyond the number of days given to the owner or other person responsible for abating the same. It will be seen therefore that a vast network of sanitary work was done in detail in the city in 1933.

Now, let us look at the subject from another angle altogether. It will be remembered that I drew attention in a special report to probable insanitary areas which have been ascertained partly by house-to-house inspection, and partly by inspection on complaint. I have not yet made a Representation on these myself, as this involves a special visit with full details placed on each Record Housing card. True, one of the six areas has almost been completed for representation purposes. The houses situated in these areas have been repaired and darned and again repaired until demolition, in a wide sweeping movement, is the only thing for them. Such new houses as have been provided have not made much change as regards a dearth of the small cheap kitchen type of dwelling house. Twenty years ago there were vacant in the city 1,211 dwelling houses at a rateable value not exceeding £8; 389 vacant houses exceeding £8, and not exceeding £20 valuation; and 318 vacant houses exceeding £20, making a total of 1,918 vacant houses in the City.

At that period there were two Improvement schemes on hand which involved the removal of approximately 1,200 dwelling houses, all of which were of the small type of house. Before these schemes were completed the Great War occurred and this held up building operations; nevertheless, some 252 houses of the kitchen type were erected to replace some of those removed by one of the Improvement schemes.

The influx of families into the city, the consequent occupation of all the houses and the overcrowding of many; the increased cost of living; and the dearth of houses, caused the birth of the Increase of Rent and Mortgage Interest (Restriction) Act, and an increase in cost of building materials. It was found impossible to build new houses at anything approaching pre-war prices. All this caused the Government to provide a subsidy to encourage the building of houses. While many houses have been erected the percentage provided of the class which is most required (the small kitchen type) is infinitesimal.

When it is considered that in the year 1913 there was a surplus of 1,918 dwelling houses in the city, together with the fact that several hundreds of kitchen type houses were each occupied by two families, it is clear that there were as many houses occupied by two families as would have reduced the number of empty houses to nil.

The provision of the better class house, the semi-detached and detached villa, and the arrival of the motor car, have resulted in the vacation of many of the older type of terrace houses, and as these terrace houses are becoming a drug on the market, and do not provide the wants of the poorer class, they are being exploited and occupied by several families. The better class tenement house is the old terrace house reconditioned so as to accommodate more than one family, each tenement provided with all the necessary requirements, and let at rentals varying from £40 yearly.

The poorer type is simply a large terrace house let in rooms to the poorer classes; this class of house is gradually disappearing owing to the fact that many tenants of parlour houses are moving into the semi-detached subsidy houses, while those occupying kitchen houses are moving into parlour houses—a move upwards. The unfortunate fact remains that no provision is being made for the accommodation of the classes occupying the kitchen type of house and that there are very many hundreds of families who are unable to pay a greater rent than 3/- to 5/- weekly.

To remove the poorer type of house which has become worn out would only be intensifying the evil, unless alternative accommodation, at suitable rents, is provided for the tenants which would be displaced. Any other action would not be in the best interest of the Public Health; the families displaced must needs find accommodation. This is an urgent necessity, and is better far than making tenements and taxing the existing accommodation of the smaller houses.

Let us turn and examine the housing in some parts of the City; take the North District. There is a shortage of dwelling-houses here for the working class population, especially in Dispensary Districts, Nos. 1, 2, and 3. Many of the houses here are of the kitchen type and are very old, and without back passage accommodation. These should be demolished in favour of alternative housing accommodation. The ground occupied by these houses, being close to the centre of the City, has become very valuable and this is the real difficulty as regards the erection of small dwelling-houses thereon.

During 1933, out of 6,447 dwelling-houses visited, in the course of routine inspection in Districts, Nos. 1, 2, and 3:—

226 houses were found to be occupied by 2 families per house									
23	"	"	"	"	"	"	3	"	"
10	"	"	"	"	"	"	4	"	"
8	"	"	"	"	"	"	5	"	"

The areas, where the greatest number of houses were found to be occupied by 2 or more families, were in the vicinity of York Street, York Road, North Queen Street, New Lodge Road, Upper Library Street, and Old Lodge Road.

In certain areas not far from the City centre, many large terrace houses have become vacant owing to the occupants removing to more modern houses in the newer residential parts of the City.

The owners of these houses, finding it difficult to obtain suitable tenants, are dividing the houses into flats and letting them to a number of tenants.

There is also a considerable number of large houses within a short distance from the City Centre, which have ceased to be occupied by one family; these houses are being rented by persons who sub-let the rooms to separate families and thereby secure a profit rent from the property.

This is an undesirable arrangement, and, as a rule, the persons occupying these houses are careless, and the property deteriorates very rapidly.

If overcrowding is considered from the aspect of 2 or more families occupying the same house, there is overcrowding in these areas, but when the cubic space was ascertained, it was found that only in a few cases was there insufficient cubic space for the number of inmates.

It is not a desirable arrangement for 2 or more families to occupy a single dwelling-house, as in most cases the tenant of the upper portion of the house has no suitable cooking or washing accommodation, and has to pass through the apartments of the lower tenant in order to gain access to the yard.

The type of dwelling-house at present being erected is not suitable for a large section of the working class population; the situation of the houses is too far removed from the City Centre and the rents are, in most cases, greater than the average working man can afford to pay.

In the areas referred to, there are a considerable number of dwelling-houses which are in such a stage of decay that it would only be a waste of money to attempt to put them into a state of good repair, such as would make them reasonably habitable for any length of time. These houses should be demolished at an early date. In order to provide alternative accommodation for the tenants who would be displaced, the erection of a good type of kitchen house, with at least 3 good bedrooms, and, if possible, a bathroom, with a good yard, and the necessary sanitary conveniences, is an urgent necessity. It is realised that very poor people could not afford the rent of such a house.

It is also desirable that housing accommodation of the type mentioned should be erected on ground not too far from the City Centre.

As regards the East Division, there are only a few areas in which there are some very old houses (about 824), consisting of a kitchen, room adjoining the kitchen and 2 bedrooms, and in some instances, they consist of a kitchen and one room. Although these houses are old, they are in a fair state of repair, and are not overcrowded, but require constant supervision so as to keep them in sanitary condition. The number of houses in this division which contain more than the requisite number of families, so as to constitute overcrowding, is small.

Building operations are still being carried on; during the past ten years, about 4,142 new houses have been erected.

With regard to the South and West Divisions, what has been said above applies to these, except that the South has not the same needs as the West. The actual streets of houses concerned will be found in my special report on the subject.

The solution of the housing problem in Belfast from the Public Health point of view, is that there should be built suitable houses before the demolition of the houses I have referred to is carried out. These houses should not be let at more than 6/- per week if we are to supply the needs of the poorer classes. In stating that houses to be let at such a rent cannot be supplied with a bath, inasmuch as the provision of a bath would raise the rent a shilling or more higher per week, I am fully aware of the debate which such advice would give rise to. If, however, we are going to demand a bath for these houses, then they cannot be let at the rent which the neediest can afford. No one wishes to be facetious, by saying that the public baths are there for the purpose of supplying the needs of the poorer classes. If, however, we are to make any headway we must make up our minds as to what a house should contain and whether a bath can be supplied.

The ideal house we want should contain a good sized kitchen, scullery, with sink, yard, water closet, and dustbin, and at least two good bedrooms upstairs.

I have given you the facts as to the housing needs in the city, and I trust that it will be possible within the next five years to make a clean sweep of the insanitary areas referred to.

Maternity and Child Welfare.

Maternity and Child Welfare is a vital and living public health service with an appeal to the imagination and to the sympathy of all classes of the community. A woman who dies in the act of childbearing is taken away in the prime of her usefulness and activity. Her passing leaves the home desolate and deprives the family of care and nurture. There is no more distressing disaster than the death of a woman under such circumstances and it is and must ever remain a matter of conscience and honour with each and every person associated with this work to urge and support all the means that are known to medical science and to humanity, whereby womankind may enrich and endow her country in conditions of perfect safety. There are many women who survive the complications and sequelae of an untoward labour and who are never restored to full health. There is no cause, no not one, which has a more clamant claim upon us, upon our sense of chivalry, and our common humanity, than that of the expectant and the lying-in woman; thus it is that we must ask ourselves at short intervals what our organisation is, whether it is ample, generous and far flung, or narrow in its scope. Is our administration working serenely and with efficiency and are the officers enthusiastic? I know the times in which we live have been difficult, and I have purposely kept back proposals until the coming of more prosperous days: nevertheless very gratifying progress has been made and we now have nine municipal ante-natal sessions each week as compared with six in 1932. As regards Infant Welfare weekly sessions we have now 14 compared with 6 in 1930.

In the "Report of the Maternal Mortality Committee" the final report of which was published in August, 1932, great stress was laid upon propaganda and education; for example it is no use holding ante-natal sessions if there are no expectant women attending them. How then do we persuade these women to attend the Centres? There are twenty-one Maternity and Child Welfare Health Visitors in the department, and 225 certified midwives in the city. It is through the Health Visitors and midwives that "propaganda and education" are principally carried out. The Health Visitors come across expectant women in the homes and at the Child Welfare Centres, and they impress upon these women the necessity of having ante-natal examination and supervision carried out. With regard to the midwives in the City, acting alone they attend 40 per cent. of the confinements in the city, and are required now by the Rules of the Joint Nursing Council to carry out ante-natal work. There are certain parts of ante-natal examination work of a technical nature, which it is not easy for a midwife to carry out; consequently if she intends to conduct the confinement alone she directs the expectant mother to attend the ante-natal centre for examination and supervision. Of course if the expectant woman prefers to have this examination carried out at the Maternity or other Hospital, or by a doctor in general practice, this is equally welcomed. When the expectant woman attends the Municipal Ante-Natal Centre (the Centre supplying the district in which she lives) she is given a card after the first examination stating the date on which her next visit to the Centre falls due. If she fails to attend on that or any other subsequent date she is visited at her home by the Health Visitor to ascertain the reason. This "following-up" is of the first importance. The report of the Departmental Committee on Maternal Mortality laid emphasis on the education of public opinion as thus:—

"The Committee desire again to draw special attention to the necessity, emphasised also in their earlier report, of educating the expectant mother to take advantage of the services provided for her. The Committee's enquiries show clearly that the mental attitude of the mother herself, not only towards ante-natal care, but throughout childbirth and the lying-in period is a factor of the greatest importance.

We find that many women even in their first pregnancy, do not submit themselves to any supervision at all, and in subsequent pregnancies this neglect is still more marked, as they have the feeling that their experience renders it unnecessary. But in point of fact, there are many risks special to the older woman, and great need for competent advice throughout later pregnancies. Dr. Leyland Robinson has recently called attention to the increased danger in such pregnancies arising out of the bodily changes set up by repeated childbearing and the physical declension due to advancing age. Instruction and encouragement in the matter are needed by primipara and multipara alike.

A vigorous campaign for the improvement of maternity services is handicapped by the difficulty of making statements which are sufficiently arresting to attract general attention and at the same time avoid over-emphasis of the difficulties and dangers of childbearing which might create exaggerated anxiety in future mothers. It is essential that women should realise that pregnancy is a serious business which they should not be expected to face without the advice and support of both doctor and midwife; that while it is a personal matter and not a subject for gossip or outside comment it is important for them to seek confidential and competent advice at the very beginning, partly as an insurance against a possible though remote risk, but mainly because many discomforts and disabilities which often accompany pregnancy can be overcome or avoided by experienced counsel; and similarly that the pain and the hazard of childbirth itself can be reduced to a minimum by the attention of a doctor or midwife already familiar with the patient and understanding her mental as well as her physical condition. Until every woman accepts this continued supervision as a matter of course and because she finds it advantageous to do so, she will never make full use of such facilities as are offered. We must not try to frighten her into doing this by holding up the bogey of possible dangers or by over-emphasising maternal mortality and saying too little about healthy, normal motherhood. Nor should our admonitions be addressed to the women alone. When the husband, relatives, friends—in fact, the general public—understand that the pregnant woman requires more skilled advice than can be obtained in her own family or drawn from her own experience, the steady pressure of common sense, public opinion and fashion will eventually induce her to turn to her doctor or midwife for early and continued supervision because everyone takes it for granted that she should. This is the outlook we must strive to cultivate, but time and habit are necessary to create such a state of mind, and the immediate problem is the best method of organising effective propaganda by health talks, individual instruction, fathers' committees, films, and perhaps to some extent even by wireless. The services of health associations or societies such as Women's Institutes and Guilds who are willing to undertake the instruction of their own members should also be enlisted. In this educational effort the most important part should be played by the personal guidance of the doctor, the midwife and health visitor, and special attention might well be paid in the training of the midwife and her post-certificate instruction to her responsibility in this matter.

Neither should it be forgotten that the best advertisement for ante-natal care, and one which will probably accomplish more than mere ad hoc propaganda, is the successful outcome of maternity cases that have received ante-natal supervision by midwife or doctor. On the other hand an unfavourable outcome for mother or child may do very much to bring ante-natal care into undeserved disrepute. For these, amongst other reasons, it is essential that the ante-natal care should reach the highest possible standard of excellence and that no slipshod work should be allowed to pass muster by either midwives or doctors."

The total number of live births registered in Belfast during 1933 was 8,599. In some of these cases ante-natal supervision and examination would doubtless be carried out privately by medical men but it is not possible to give the number of such examinations. In several cases it is a fair inference that no ante-natal work was done. The following table serves to show the extent of this work for the calendar year 1933 in the hospitals and municipal clinics:—

			No. of First examinations	No. of subsequent visits
Maternity Hospital	.....	.....	1,500	5,041
The Ulster Hospital	.....	.....	205	447
Malone Place Home	.....	.....	197	377
Municipal Clinics	.....	.....	1,917	5,350
			<hr/>	<hr/>
		Total	3,819	11,215

The following Table shows the steady expansion of the work in the Municipal Centres :—

			<i>New Cases.</i>	<i>No. of Re-visits.</i>
First Year	1931	.....	*147	161
	1932	.....	962	2,099
	1933	.....	1,917	5,350

*—3 months commencing 1st October, 1931.

We encourage the midwives to attend the ante-natal centre and to be present when their expectant patient is examined by Dr. Pollock. Many of the midwives cannot spare the time to attend the ante-natal centre with their patients, consequently in these cases a report is sent out by our doctor to the midwife.

In a few cases sent by the midwives the doctor has ascertained that the woman is suffering from a condition which requires immediate attention either as an indoor or outdoor patient of a hospital. The number of these in 1933 was 94. It is a matter of moment that a midwife should not suffer the loss of any case because a patient sent by her to our ante-natal centre, has had to be sent into hospital for her confinement, owing to the discovery of some defect ; in such a case the Departmental Committee recommend "compensation of midwives for loss of cases sent to a maternity hospital from an ante-natal clinic." This should not be lost sight of as the loss of a fee is bound to leave a midwife with a sense of grievance. During the present financial stringency I have not pressed the question of the provision of suitable centres for ante-natal and infant welfare work. Such centres would make provision for dental treatment for expectant women and children under school age.

We require our own dental centre once we build a suitable place for ante-natal work, and in conjunction therewith we need dental work, immunisation against diphtheria and Scarlet Fever, and ophthalmic work for toddlers. In pregnancy especially, the importance of sound teeth cannot be stressed too much. Ordinarily bad teeth lead to pain, loss of sleep, abscesses, pyorrhoea, indigestion anaemia, and debility. In pregnancy none of these conditions can afford to be tolerated. Our Maternal death rate is improving but everyone knows that puerperal fever is the principle cause of maternal mortality. Puerperal fever is due to sepsis and one view is that the septic factor may arise within the mother from septic teeth.

Provision of dental treatment, of conservative dentistry for expectant women is a *sine qua non*. It is part of that broad detail, attention to which must certainly bring down the maternal death rate. Look at this Table showing the defects diagnosed by Dr. Pollock.

Out of 1,917 expectant women examined no fewer than 1,769 defects were found ; if we deduct 528 of these defects as belonging to the relatively minor condition of constipation, we are left with some twelve hundred defects of greater or lesser importance :—

Table of Defects in 1,917 Expectant Women.

Abscess	.....	.....	2	Lymphatic Leukaemia	.....	.....	1
Albuminuria	.....	.....	614	Malpresentation	.....	.....	89
Anaemia	.....	.....	92	Miscarriage	.....	.....	1

Ante Partum Haemorrhage	29	Mumps	1
Appendicitis	1	Multiple Pregnancy	1
Bronchitis	30	Nephritis	1
Cardiac Disease	53	Oedema	18
Contracted Pelvis	13	Phthisis	16
Conjunctivitis	2	Pruritis	13
Constipation	528	Pleurisy	3
Cholecystitis	1	Pyorrhoea	2
Dental Caries	65	Psoriasis	2
Debility	4	Recto-Vaginal Fistula	1
Dermatitis	3	Ringworm	1
Diarrhoea	2	Rickets	1
Epistaxis	1	Syphilis	5
Enteritis	2	Stomatitis	3
Femoral Hernia	1	Scabies	3
Gonorrhoea	3	Sleeplessness	1
Goitre	2	Threatened Miscarriage	4
Haemorrhoids	9	Tuberculosis	1
Haematuria	1	T. B. Spine	1
Helminthes	2	T. B. Hip Joint	1
Hyperpiesis	12	T. B. Adenitis	1
Hydramnios	6	T. B. Arthritis	1
Hyperemesis	22	Umbilical Hernia	1
Influenza	1	Varicose Veins	81
Keratitis	1		
Leucorrhoea	13		

Not Pregnant 28.

It is necessary that some simple explanation of the relative importance (seriousness) of some of these defects should be given here. To begin with, turn to the Table below, of the Departmental Committee on Maternal Mortality and Morbidity. This Committee investigated 1,111 maternal deaths, deaths directly due to child bearing.

It is not enough to diagnose these cases at our ante-natal clinics, the question is, what happened to them? One cannot possibly deal here with all of them. Take the 94 cases which were sent into hospital: then after hospital, take the results of the "following-up" at the homes of these women by our Health Visitors.

Here is a skeleton synopsis or summary:—

Results regarding 94 Cases Sent into Hospital from the Municipal Ante-Natal Centres.

1,933

Number of cases sent to hospital	94
Number of cases advised to go to hospital, but refused	12

Analysis of results of 94 cases which received hospital treatment:—

(a) *Albuminuria*—47 cases. Of these

- 37 had living children and made good recovery
- 2 had stillbirths " " "
- 1 had an abortion " " "
- 5 could not be traced after leaving hospital
- 1 still receiving treatment

(b) *Disproportion*—16 cases. Of these

- 13 had living children and made good recovery
- 2 had stillbirths " " "
- 1 could not be traced after leaving hospital

- (c) *Ante-Partum Haemorrhage*—5 cases. Of these
 2 had living children and made good recovery
 1 had an abortion " " " "
 1 had a stillbirth " " " "
 1 could not be traced after leaving hospital
- (d) *Syphilis*—4 cases (Out-patient treatment). Of these
 2 had living children and made good recovery
 1 had a stillbirth " " " "
 1 not yet confined
- (e) *Malpresentation*—3 cases. Of these
 1 was delivered by Caesarean Section, living child, good recovery
 2 had living children and made good recovery
- (f) *Leucorrhoea*—3 cases (out-patient treatment)
 All had living children and made good recovery
- (g) *Heart Disease*—3 cases. Of these
 2 at present receiving treatment and not yet confined
 1 had living child and made good recovery
- (h) *Threatened Miscarriage*—2 cases. Of these
 1 had living child and made good recovery
 1 had an abortion " " " "
- (i) *Hydramnios*—2 cases. Of these
 1 had living child and made good recovery
 1 had a stillbirth " " " "
- (j) *Twin Pregnancy*—2 cases
 Both had living children and made good recovery
- (k) *Gonorrhoea*—2 cases (Out-patient treatment)
 1 still undergoing treatment. Child died 4 days after birth
 1 still undergoing treatment. Child died 1 month after birth
- (l) *Salpingitis*—1 case. Normal recovery; child alive.
- (m) *Phthisis*—1 case. Still receiving treatment. Child alive (out-patient treatment)
- (n) *Tubercular Adenitis*—1 case. (Out-patient treatment). Normal Confinement. Child alive.
- (o) *Exophthalmic Goitre*—1 case (Out-patient treatment). Normal Confinement. Child alive.
- (p) *Otitis Media*—1 case. (Out-patient treatment). Condition improved. Normal confinement. Child alive

Analysis of results of 12 cases which refused to accept hospital treatment:—

- (a) *Albuminuria*—6 cases. Of these
 3 had living children and made good recovery

Sent into Hospital later by Private Doctor.	{	1 developed eclampsia and had stillbirth and recovered 1 developed pre-eclamptic condition and had live birth and recovered 1 had premature birth, living child
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(b) *Disproportion*—4 cases. Of these

2 had living children and made good recovery
2 had stillbirths and made good recovery

(c) *Ante-Partum Haemorrhage*—1 case

Had living child and made good recovery


(d) *Bad Obstetrical History*—1 case

Sent into hospital after confinement by private doctor. Child alive.

It may be suggested that there is no need for the Medical Officer, in the introductory letter to an Annual Report, to give such details respecting Ante-natal work. I think it is of the first moment that particulars of the kind should be given, in order that there may be a clear understanding concerning this most important subject. Some of these ailments named will convey to readers an idea of the nature of the ailments which pregnant women suffer from, and this will lead to greater public interest and so make it the recognised rule that every pregnant women will have full ante-natal examination and treatment.

Matters are most encouraging. We have moved on quietly and without effort from ante-natal to post-natal examination. This last-mentioned means that a month or so after the confinement the mother attends the centre and is examined to see whether there is any defect or disability arising out of the confinement which requires treatment. This is prophylactic as well as pre-treatment work, for a condition left unrecognised and untreated to-day may be the starting point of some serious condition to-morrow, e.g. cancer. Attention to detail, and tenacity of purpose will make any movement a success.

Another important matter is that of co-ordination with the Maternity hospitals. We are glad to be of any assistance. From time to time we receive word from the Maternity Hospital that a woman has failed to return or has left the hospital against medical advice. We are glad to follow up such cases and by the exercise of patience and persuasion, endeavour to get the expectant mother to do what the hospital doctor advises.

Here, for example, is a slip of paper on my desk, a telephone message to say that a young woman with albuminuria and high blood pressure has not done what the hospital experts want. We shall step in at once and help the hospital and the patient. 

Lastly we turn to the maternal mortality rate. This means the number of maternal deaths per thousand registered births; the cry is that whereas the rate of infant mortality has been brought down in the last 30 years, the maternal mortality rate has remained stationary. Our rate for 1933 was 5.2—5 mothers died per thousand registered births. Fifty-nine mothers died in or arising out of childbirth. Of these 13 came to Belfast from outside city addresses for their confinement and their deaths are transferable outwards to their normal place of abode, for statistical purposes. This leaves 46 deaths; of these two were unmarried women. It is of vast importance that every clergyman and every public worker should know the name and address of the Belfast Midnight Mission, Malone Place (Secretary—Mrs. Robertson) and of the Salvation Army, Thorndale Home (Major Walton in charge). These two institutions take in young women married or unmarried, prior to, during, and after, their confinements. They are well equipped and staffed and do splendid work; and should be better known throughout the province as they are a haven for women in trouble.

What are the diseases which carried off the 46 mothers in (or arising out of) childbirth? Before giving the causes, take the figures giving the percentage causes of death from the second series of figures published in the Final Report of the Departmental Committee on Maternal Mortality and Morbidity. The figures dealt with 1,111 maternal deaths: the percentages were:—

Deaths directly due to Childbearing.

	<i>Per Cent.</i>
(1) Sepsis	36.3
(2) Eclampsia	10.6
(3) Operative Shock, etc.	10.4
(4) Ante Partum Haemorrhage	8.1
(5) Post Partum Haemorrhage	6.7
(6) Other toxaemias, including Chorea and Mania	5.8
(7) Embolism	6.8
(8) Abortion	13.4
(9) Extra-uterine Gestation	1.8

Our maternal deaths numbered 46—a number far too small to yield percentage figures of any value. The causes were Puerperal Sepsis 10; Puerperal Haemorrhage 10; Abortion 2; Puerperal Phlegmasia Alba Dolens and Embolism 4; Puerperal Albuminuria and convulsions, 2; Other accidents of childbirth, 7; Post Partum Sepsis, 2; Other toxaemias, 2; Ectopic gestation, 1. Non-puerperal causes combined with pregnancy and childbirth:—Diseases of heart, 3; Chronic Nephritis, 1; Pulmonary Tuberculosis, 1; Carcinoma, 1.

A study of these cases and a knowledge of their causes again and again emphasises the need for ante-natal examination and supervision. The figures given as to the numbers of expectant women receiving this attention now are most encouraging, but we must use all our means of propaganda that all expectant women, without exception, will receive this care and attention. Meanwhile of the 46 mothers who died, 29 had received ante-natal attention. The question of ante-natal care and its relation to the infant mortality rate again brings out the overwhelming need of ante-natal care. Study this carefully. Subject to certain adjustments to be made by the Register General as to the districts they belong to, it may be said that there were 8,599 births in Belfast in 1933 and 880 registered deaths of infants under one year of age; this gives an infant mortality of 102—an improving rate, but still too high. It was a "Measles" year, and this disease caused the deaths of 23 infants under one year old, while the complications of measles made a heavy toll of young life; in fact, pneumonia, whether by itself or as a complication of measles, destroyed 173 infants; indeed Pneumonia was the greatest of all the causes of infant mortality in Belfast during 1933. Bronchitis removed 26, and Whooping Cough 18. Now babies which die under one month old give us the neo-natal deaths, and it is well recognized that the neo-natal deaths, as a whole, arise from ante-natal causes. Take prematurity for example, this is given as the cause of 137 deaths out of the 292 babies who died before they were a month old; Atrophy, debility and marasmus accounted for 48 deaths before one month old. More than thirty per cent. of the infant deaths in Belfast occur before the infants are one month old. What does this mean? One writer says "The hazards of the ante-natal and neo-natal periods are in great measure the same. The methods for the control of ante-natal mortality avail against neo-natal mortality also." Difficult labour and prolonged labour are responsible for a great deal.

I would close this section of my report by quoting a certain writer who says concerning control of syphilis and toxæmia:—

"Syphilis and Toxaemia, the principal ante partum causes of ante-natal mortality, and Asphyxia and Cerebral Haemorrhage, the principal intra partum causes, are severally capable, as has been shown, of prevention by obstetric means. The same may be said of difficult labours tending to resolve in craniotomy. The control of ante-natal mortality consists in applying to each known cause its appropriate medical or obstetrical treatment in the light of information principally acquired by ante-natal supervision, whether at home or at ante-natal clinics or in the ante-natal wards of hospitals."

The same writer alluding to infant mortality says:—

"Maternal Care—The most constant factor in the lives of infants by which

their mortality rate is determined appears to be maternal care. The instruction of mothers in the discharge of their duties is now carried on under Welfare Schemes and it may be noted that the infantile diseases in which the death rate has lately been most rapidly falling include those of the digestive system the prevention of which, being a question of feeding, is mainly the mother's concern. Of the causes just enumerated above those in which the association with infantile mortality is clearest are operative through the mother. Artificial feeding demands her untiring vigilance, a lapse in which may bring disaster. Overcrowding hampers her every effort for the protection of her child. Illegitimacy may commit her infant to strangers. Well directed maternal care implies maternal efficiency, the precise definition of which is difficult though its general sense is obvious enough. Noel Paton and L. Findlay in their investigation of Poverty Nutrition and Growth, which takes in the age of infancy, found that of all the correlations which they evaluated those between growth and maternal efficiency were the only ones really significant. Maternal efficiency, in their view, is not directly associated with poverty, but it is associated with overcrowding and maternal health."

One word more, 130 deaths of infants were due to enteritis, 6 to gastritis and 15 to diarrhoea—all this sadly bespeaks the need for constant and insistent teaching of infant feeding by a Health Visitor, day in and day out, week after week, and month after month. If we are to fight against the causes of Pneumonia and of Diarrhoea, we must teach the mothers. Begin with them at the ante-natal centres. Educate, educate, spread the truth of mother-craft and motherhood and so remove this reproach of an infant mortality rate of 102 from our midst.

The Milk Supply of Belfast.

The Citizens of Belfast consume approximately 27,500 gallons of milk a day; allowing for a population of 467,000 persons, this is equivalent to less than half a pint per head, consumed daily. Two thousand gallons are produced within the city, and the remainder is brought to Belfast by horse drawn vehicles, motors, or by rail from the counties of Antrim, Down and Derry, and a small quantity from Armagh. There are 85 cowsheds in the city, and the animals therein and the premises are regularly inspected, including periodic visits by the City Veterinarian. We have no power of inspection of the dairies, cowsheds and animals outside the city.

Designation of Milk. 4,000 gallons of the above milk are Grade A. T.T. nine thousand four hundred gallons are pasteurised and the remainder, fourteen thousand one hundred gallons represent ordinary milk, that is milk not subjected to pasteurisation and not from cows subjected to the tuberculin test. Four firms in Belfast pasteurise their milk: two of them use the "Holder" process and the other two use the "Flash" process.

Distribution. Grade A. T.T. milk and six thousand one hundred and twenty gallons of pasteurised milk are distributed in bottles, and the remainder, seventeen thousand three hundred and eighty gallons are distributed from milk cans in vehicles in the streets, and from milk vessels in shops. It is earnestly to be wished for that every citizen should demand delivery of his milk in bottle; if this demand is made then retailers must find a way whereby empty bottles will be sterilised before the milk is put into them. The demand will stop the pernicious practice I have myself witnessed whereby, in the street, milk is run off a tap from a can on a milk float, into bottles. The lad in charge then produces a package of discs from somewhere and fits them into position, and, hey presto the deed is done. If householders insist on milk supplied to them being delivered in bottles, then the demand, being so great, will require special methods, modern clean methods, to be followed whereby the milk will be bottled on satisfactory premises under thoroughly satisfactory conditions. Much milk is still distributed from milk cans on vehicles in the streets where it is exposed to contamination from dust, etc. and from the purveyor's hands and clothing. In the great majority of shops where milk is kept for sale, various kinds of goods are kept. This subject is badly in need of modernising. On no account should milk be kept in shops where sticks, coal, paraffin oil, pickles, and so on are kept and sold. Unhappily we are

powerless in the matter. When a man wishes to sell milk we cannot prevent him, as there is no legal requirement that the premises shall be registered ; we are many years behind other parts of Great Britain in this respect. In many of these local shops the milk vessel is either kept on the counter or on the floor, and as the outer door of the shop is kept open, dust blows in, and is bound to contaminate the milk. Dust conveys the germs of disease, but I must point out, in fairness, that in no instance have we been able to prove, on direct or circumstantial evidence, during 1933, that any infectious disease was milk-borne.

I turn now with pleasure to some very good features in connection with the public milk supply. There has been a very gratifying response to our clean milk campaign, as the following facts prove. During 1933 we submitted one hundred and ninety three samples to the Public Analyst, asking him to report on the number of parts of dirt per 100,000. It was no uncommon thing during recent years to find five or more parts of dirt, but the following table illustrates the steady improvement, and one would congratulate all responsible. Mr. Wright, Secretary of the Farmers' Union, has been a good friend, and it will be pleasing to him to find that his kind co-operation has borne fruit.

Table.

Samples of Sweetmilk examined for Extraneous Dirt.

Number of Samples of Milk	Dirt in parts per 100,000
12	Under 1 part.
92	Having 1 part.
65	Under 2 parts.
15	Having 2 parts.
6	Between 2 and 3 parts.
2	Between 3 and 4 parts.
1	Having 4 parts.

The second test for cleanliness is the bacteriological count, the number of germs per cubic centimetre. Here, as in the case of "parts of dirt per 100,000" there is no legal standard. In Belfast we have adopted an unofficial standard, that the person responsible should be written to if the milk contains over 200,000 germs per c.c. or B. Coli in one hundredth of a c.c. Admittedly this is a high standard corresponding to the Grade A of England and Wales.

The following Table gives the bacterial count, first, in the case of ordinary milk, second re "pasteurised" milk, and, third re Grade A Milk. On the whole there is considerable room for improvement. I repeat that the Belfast Public Health Department is not responsible for the cleanliness of the cows and cowsheds, etc. outside of Belfast, where the greater portion of the City supply is produced.

We may be criticised for not having given the age of the milk examined, i.e. the number of hours between milking and the laboratory test. Surely this does not matter very much ; if milk is exposed for sale that is enough.

The colon bacillus count also affords a suitable check and the results are as follows:—

This table shows the B. Coli, and the number of Organisms.

No. of Milks	Kind	B. Coli in				No. of milks which showed an Agar Count of over 200,000 in Grade A, & Fresh Milks & over 30,000 in Past. Milk
		1 — 10cc	1 — 100cc	1 — 1,000cc	1 — 10,000cc	
965	Fresh	771 79.9%	516 53.47%	281 29.12%	104 10.78%	560 58.03%
29	Grade A	16 55.17%	6 20.69%	1 3.45%	0 0%	7 24.14%
149	Past	177 78.52%	77 51.68%	45 30.20%	16 10.74%	132 88.59%

253 milks were examined by the biological method for B. Tuberculosis. Of these, 12 were infected with Live B. Tuberculosis. This gives a percentage of 4.74.

Next, comes the question of the sophistication of milk. The results are most gratifying. Adulteration is becoming very uncommon.

Year.	No. of Samples examined.	No. of Samples adulterated.	Percentage adulterated.	No. of Prosecutions.
1929	1,300	109	8.38	60
1930	1,307	77	5.89	33
1931	1,197	48	4.01	24
1932	1,267	51	4.03	19
1933	1,495	61	4.09	22

It will be noted that the number of prosecutions is, in each year, less than the number of "adulterations." The results of the analysis in each case, are carefully considered from all angles before deciding as to a prosecution. About four per cent. of samples were adulterated. While this is generally satisfactory, as when compared with earlier years, there is still room for improvement. The next test is with reference to the number of cases in which tubercle bacilli were found by the City Bacteriologist in samples of milk submitted. Out of two hundred and fifty-three samples, twelve were found to contain tubercle bacilli; this is equivalent to 4.7 per cent. The record for previous years is contained in the following table:—

Milk and Tubercle Bacilli.

Examination by Biological Method

Year	No. of Samples examined.	No. of Samples in which T.B. was found	Percentage positive
1929	104	6	5.77
1930	156	13	8.33
1931	113	5	4.42
1932	142	5	3.52
1933	253	12	4.7

It is no uncommon thing to read of 8 or 11 per cent. of samples being found positive. I do not think that the relatively small number of samples submitted for examination is sufficient to enable us to accept our results as being a certain indication of the presence or absence of tuberculosis in the cows from which the milk came. Four per cent. is a satisfactory figure, but if we had examined a thousand samples of milk for tubercle bacilli we could have been satisfied that the four per cent. figure was really a sure and certain figure. In this test guinea pigs are used and unfortunately our licence permits only of a small number for the test. Even so, testing milk in this way is only spot testing and is a sorry substitute for the real thing, namely the routine clinical (at least) examination of cattle by whole-time Veterinary Surgeons.

We come now to the final question. What is the safest milk I could advise the public to drink? We must cast prejudice out of our minds and yet maintain a healthy scepticism when we hear glowing accounts of the merits of such and such a kind of milk, frequently given by people not competent to give a reliable opinion. The safest possible milk is not available to the public: it is milk produced under licence from tuberculin-tested herds, and subsequently pasteurised: such would furnish us with a clean, safe milk at a price—there's the rub—that should not exceed that of ordinary pasteurised milk by more than 2d. a quart. In Northern Ireland we do not have the various grades which are available "across the water." We have only one official grade, Grade A. T.T. In England and Wales the best alternatives are recognised by those competent to speak on the subject, to be Grade A. Pasteurised and Pasteurised milk. Now take matters in Belfast. We have Grade A. T.T. under Government supervision, and we have milk sold as pasteurised. We hear strange remarks from people who enter this battleground of the milks. They tell us that pasteurised milk is a cemetery of dead germs, and that milk is pasteurised to make dirty milk safe. It is of course quite possible that there is truth in these criticisms as regards some alleged pasteurised milk, but the picturesqueness of the attack, not to say malice, detracts from its weight of value. Anyone acquainted with the methods, the practice of good class pasteurising firms, knows that their bacteriologists examine the milk as it arrives, and if any is found to be dirty, the peccant farm is written to. Pasteurised milk, coming from a firm whose methods are reliable, is a first class safe milk, and the weight of informed medical opinion is in its favour to-day. But remember that in the investigation of the Scottish Board of Health, out of 714 samples of Certified and Grade A. T.T. milk examined only one was found to contain tubercle bacilli, a percentage of 0.14 as against the 2.8 per cent. of pasteurised milk. Pasteurisation enormously reduces the risk of contracting tuberculosis by the consumption of milk from tuberculous cows. Pasteurisation does not entirely eliminate the danger, since the process requires the bulking of large quantities of milk, ensuring in this way the almost constant presence of tubercle bacilli in the milk entering the apparatus. In the Scottish report 2.8 per cent. of 1,243 milks pasteurised by the "holder" method, were found to contain living tubercle bacilli. Taking all things into consideration, so far as Belfast is concerned, people can drink Grade A. T.T. milk and "Pasteurised" milk, with a degree of assurance. I drink both.

Ice Cream.

Ice cream is a refreshment and to a certain extent a food: in the summer time, considerable quantities are consumed and this is likely to increase. People are entitled to know what they are consuming and whether ice cream sold in Belfast is safe. First, as to the premises used and/or proposed to be used as a shop or place for the sale of ice cream. On December 1st, 1931, By-laws came into force regulating the construction of "Registered Premises." The owner or occupier of these shall not carry on business, etc., unless the premises have a sufficient supply of hot and cold water and are entirely open from back to front and from side to side, etc. All utensils must be scrupulously clean and kept so by the use of steam or hot water and the ice cream and ingredients must be kept

covered and protected against contamination. It is forbidden to allow ice cream or the ingredients for the manufacture thereof to be handled by, or to come in contact with or to be kept in proximity to any person who shall be dirty or suffering from infectious disease. A person engaged in the manufacture of ice cream shall wear a clean overcoat or overall of white washable material. The By-laws continue with reference to lighting, cleanliness and ventilation. Next, as to the composition of ice cream, the question of a minimum fat percentage standard has been considered and a minimum of 5 per cent. has been adopted in one or two places. From 5 to 8 per cent. would be best. There is no bacteriological standard as yet, but surely if Grade A. milk does not allow more than 200,000 germs per c.c. we should demand a standard of, say, not over 300,000 in ice cream. I sent 36 samples to the bacteriologist and public analyst just to see what the public are being given: the results in most cases were very unsatisfactory. The percentage of fat in the smaller shops was woefully weak, and the gross bacterial count satisfies me that if and when I eat ice cream it will be bought at the best class of shops. Here is the bacterial count:—

<i>Number of Germs in a c.c. of Ice Cream.</i>	<i>Number of samples which contained that number of germs.</i>
4 millions or more	3
3 ,,	1
2 ,,	4
1 million or more	6
900,000 or more	4
800,000 ,,	1
700,000 ,,	1
600,000 ,,	2
500,000 ,,	4
400,000 ,,	6
300,000 ,,	3
250,000 ,,	4
180,000 ,,	5
120,000 ,,	6
80,000 ,,	2
50,000 ,,	1
20,000 ,,	1

Milk is used in the preparation of ice cream. Colon bacilli get into cow's milk if the cow's udder, tail and flanks are not kept clean. Cornflour and milk used in making ice cream for so many years were boiled so that colon bacilli were destroyed. Nowadays cornflour has been largely replaced by a preparation, known and sold in the trade as Ice Cream Powder. Over 85 per cent. of this is a very finely milled preparation of maize starch with the addition in some instances of sago starch, and ensures a product of a smooth and velvety texture. The Ice Cream Association has for a number of years pressed for definitions and standards, namely (1) that "Ice Cream" or "Cream Ices" should contain not less than eight per cent. of milk fats, and a total of not less than 18 per cent. of milk solids. Recently a Committee on Milk and Milk Products Industry in Scotland issued by the Scottish National Development Council suggested limits of 8 per cent. and 18 per cent. respectively as fair.

As to the presence of colon bacilli in ice cream, 54 samples were examined.

In 2 samples no colon bacilli were present.

In 16 samples colon bacilli were present in 1/10th of a c.c.

In 10 samples colon bacilli were present in 1/100th of a c.c.

In 5 samples colon bacilli were present in 1/1,000th of a c.c.

In 21 samples colon bacilli were present in 1/10,000th of a c.c.

Of the 36 samples sent to the City Bacteriologist for total bacterial count 12 were taken from higher class restaurants and 24 from ordinary small shops. Those from the smaller shops were seriously contaminated, probably due to want of cleanliness in the manufacture, or in the premises where it was produced.

A Committee is at present considering questions re bread, ice cream, etc., and has taken evidence from authoritative bodies; it is to be hoped that legislation will result at an early date. Meanwhile by way of giving some explanation of what is wanted, I would make these observations.

Milk Fat Preservatives,

(1) Where a sample of ice cream is taken in the city under the provisions of the Food and Drugs Acts, which contains less than eight per cent. of milk fat or any fat other than milk fat, or less than 18 per centum of milk solids, or any preservative other than preservatives permitted under the (Preservatives, etc. in Food), (Northern Ireland) Amended Regulations, 1927, or any Regulations made by the Ministry of Home Affairs amending or extending the same, it should be presumed for the purpose of the said Acts, until the contrary is proved that the Ice Cream is not of the nature, substance and quality of the ice cream demanded.

(2) "Ice Cream" shall be deemed to include any similar frozen commodity of which milk or cream is one of the ingredients.

(3) Where a sample of ice cream is reported by the City Bacteriologist to contain more than 300,000 micro-organisms per c.c., or /and lactose fermenting of colon bacilli numbering more than 100, in one c.c., the ice cream shall be regarded as impure and not of the nature, substance, and quality demanded.

(4) Penal clauses.

Belfast Health Week and Exhibition.

A most successful Health Week was held in the Ulster Hall, from June 5th to 10th, both dates inclusive. Thirteen years had elapsed since the last Health Week was held in Belfast. The success attending upon the 1933 venture makes it desirable that one should be held, say, every second year. The attendance was in the neighbourhood of thirty thousand people. Six thousand school-children were conducted round the Exhibition and received twelve special displays of Health films. Ten thousand six hundred and fifty people attended twenty-seven displays of Health films; four thousand two-hundred attended the twelve Maternity films and six thousand seven hundred and fifty attended nine popular lectures given by professors and lecturers. The total cost of the Exhibition was £500 of which £300 was paid out of small rent charges made for trade exhibits of a strictly health nature. The following is a list of the different associations and organisations which provided exhibits:—

Health Exhibits:—

"Better Health"
 British Red Cross Society.
 British Social Hygiene Council.
 Central Council for Health Education.
 Cremation Society.
 Dental Board of United Kingdom.
 Food Educational Society.
 Health and Cleanliness Council.
 Institute of Hygiene.
 National Association for Prevention of T.B.
 National Council for Maternity and Child Welfare.

National Playing Fields Association.
 National Smoke Abatement Society.
 National Safety First Association.
 Irish Temperance Alliance.
 Ministry of Agriculture (Grade A. T. T. Milk).

Special Exhibits (departmental) :—

Public Health Department.
 Maternity and Child Welfare.
 School Medical Services.
 Tuberculosis Department.
 Gas Department.
 Electricity Department.

There Were eleven Special Trade Exhibits as well.

An elaborate programme was drawn up, and five thousand copies were issued free. With the kind permission of the National Baby Week Council the famous poster entitled "The Saving of the Race" formed the frontispiece. The programme also contained photographs of the Right Hon. the Lord Mayor, Sir Crawford McCullough, D.L., and Alderman J. Dunlop Williamson, M.D., J.P., Chairman of the Public Health Committee.

The Exhibition was opened by the Lord Mayor, Alderman Dr. Williamson in the chair, and on each subsequent day by distinguished ladies and gentlemen. Among the lecturers were Professors Currie and Johnstone, Dr. David Lees, Dr. Allen, Alderman Dr. Williamson, Dr. Trimble and Dr. Simms. Forty films were exhibited; these were hired from or kindly lent by :—The Health and Cleanliness Council; the Dental Board of the United Kingdom; the National Baby Week Council; the British Red Cross; the Mutual Profit Insurance Co., Ltd.; the Kodak Limited (produced and kindly lent by the Public Health Department, Bermondsey Borough Council); and Cow and Gate, Ltd. Lantern Slides were also kindly lent by the Central Council for Health Education and the National Safety First Association.

The work involved was heavy, but was amply repaid by the success of the Week. The whole staff of the Public Health Department gave splendid help, and special thanks are due to Mr. R. T. Curry, clerk; Miss M. E. McCready, typist; and Mr. S. A. Nelson, Divisional Officer. An extensive advertising campaign was carried through in the press, and by posters, by special sermons in the Churches, and by means of the Broadcast Cinema Van of Cow and Gate, Ltd., Surrey. The local Cinema Proprietors most kindly exhibited advertising slides, while the Tramways Committee was a host in itself. Not only were health posters displayed in the tramcars, but mothers were brought to and from the various Child Welfare Clinics. Very grateful thanks are again tendered to the Estates Committee for kindly lending the Ulster Halls for the occasion, and to the Gas and Electricity Committees for their splendid displays and generosity. The Improvement Committee made matters easy for us by erecting the stands at a nominal cost. Alderman Dr. Williamson sent a resounding message round the Province from the Belfast Station of the British Broadcasting Corporation. As an educational venture there can be no doubt that the Week was a great success, and with the application of the same methods and enthusiasm, combined with the experience gained, the success of any future venture is assured.

Port Sanitary Authority.

I wish to draw particular attention to the essay embodied in the report on the Port Sanitary Authority. It must be clear to everybody that a watchful eye has to be kept on the Port, and the arrangements which have been made under the Port Sanitary Regulations (N.I.), 1933 are calculated to prevent the admission of diseases into Ireland so far as the Port of Belfast is concerned. I would stress this matter that the report given herein on the Port of Belfast is of unusual interest.

It remains for me to thank all those on the staff who have given of their best during the year 1933. Many of the staff have studied for additional qualifications thereby improving their worth to the community. For their loyal steady work I thank them. During the year we received, as ever, kind assistance when required from the Town Clerk and the Town Solicitor. Close contact, as usual, has been kept with the City Surveyor. The City Surveyor and his staff work constantly in harmonious co-operation with the Public Health Department, and the importance of his Department's work as regards the public health of the city cannot be over estimated. Throughout our labours the different Committees engaged in public health work have shown every kindness and support, and the Chairman of the Public Health Committee, Alderman J. Dunlop Williamson, M.D, J.P., has, as always, been a host in himself.

I have the honour to remain,

My Lord Mayor, Alderman and Councillors,

Your obedient servant,

CHARLES S. THOMSON,
Medical Superintendent Officer of Health.

I have learned with much gratification that since the printing of this Report, Alderman J. Dunlop Williamson, M.D., J.P., High Sheriff for the County of the City of Belfast, and Chairman of the Public Health Committee has been further honoured by his appointment as Deputy Lieutenant for the County of the City of Belfast, and I have great pleasure in recording this distinction.

14/7/34

C.S.T.

BIRTHS.

8,599 births were registered during the year, equivalent to a birth rate of 20.7 per 1,000 of the population. This is a decrease of 0.7 per 1,000, compared with the preceding year, when the number registered was 8,882 and the rate 21.4.

The average number registered annually during the ten years, 1924-1933, was 9,546, and the average annual birth rate 22.7

The following shews the number of births, the percentage of the total number registered during the year, and the annual birth rate per 1,000 of the population in each of the four quarters of the year :—

	No. of Births	Percentage of Total No.	Birth Rate
First Quarter	2,228	25.9	21.5
Second Quarter	2,367	27.5	22.8
Third Quarter	2,049	23.8	19.7
Fourth Quarter	1,955	22.7	18.8

DEATHS.

6,318 deaths were registered from all causes during the year, equivalent to a death rate of 15.2 per 1,000 of the population, an increase of 1.3 per 1,000 compared with the preceding year, when the number registered was 5,783 and the rate 13.9.

The average number registered annually during the ten years 1924-1933 was 6,020 and the average annual death rate 14.3.

The following shews the number of deaths, the percentage of the total number registered during the year, and the annual death rate per 1,000 of the population in each of the four quarters of the year :—

	No. of Deaths	Percentage of Total No.	Death Rate
First Quarter	2,328	36.8	22.4
Second Quarter	1,349	21.4	13.0
Third Quarter	1,164	18.4	11.2
Fourth Quarter	1,477	23.4	14.2

TABLE I.

Shewing the number of deaths, the percentage of the total number registered, and the death rates per 1,000 of the population at various age periods compared with the year 1932.

	1933			1932		
	No. of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population	No of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population
Under 1 year	880	13.9	2.1	983	17.0	2.4
1 year and under 5 years	453	7.2	1.1	363	6.3	0.9
5 years and under 25 years	496	7.8	1.2	391	6.8	0.9
25 years and under 45 years	784	12.4	1.9	701	12.1	1.7
45 years and under 65 years	1,634	25.9	3.9	1,462	25.3	3.5
65 years and upwards	2,071	32.8	5.0	1,883	32.6	4.5

TABLE II.

Shewing the number of deaths from various causes, together with the percentage of the total number registered and the death rate per 1,000 of the population.

Cause of Death.	1933			1932		
	No. of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population	No. of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population
Typhoid Fever	2	0.03	0.005	1	0.02	0.002
Typhus Fever	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—
Measles	78	1.23	0.19	30	0.52	0.07
Scarlet Fever	11	0.17	0.03	10	0.17	0.02
Whooping Cough	33	0.52	0.08	102	1.76	0.25
Diphtheria	47	0.74	0.11	19	0.33	0.05
Dysentery	—	—	—	1	0.02	0.002
Influenza	222	3.51	0.53	66	1.14	0.16
Diarrhoea—						
Under 2 years of age	165	2.61	0.40	151	2.61	0.36
Tuberculous Diseases—						
Phthisis	429	6.79	1.03	448	7.75	1.08
Other forms	171	2.71	0.41	105	1.82	0.25
Total Tuberculous Diseases	600	9.50	1.44	553	9.57	1.33
Diseases of the Respiratory—						
System—						
Pneumonia	583	9.23	1.40	539	9.32	1.30
Other	605	9.58	1.46	461	7.97	1.11
Total Dis. Resp. System	1,188	18.81	2.86	1,000	17.29	2.41
Total Chest Affections	1,617	25.60	3.90	1,448	25.04	3.49
Cancer	493	7.80	1.19	493	8.52	1.19
Violence	155	2.45	0.37	118	2.04	0.28

TABLE III.

Shewing the annual death rate per 1,000 of the population from all causes during the twenty years 1914/1933; also the average rate for quinquennial periods.

Year.		Rate.		Year.		Rate.
1914	.....	18.9	18.6	1924	.....	14.3
1915	.....	17.9		1925	.....	14.0
1916	.....	16.7		1926	.....	15.4
1917	.....	16.7		1927	.....	13.6
1918	.....	22.7		1928	.....	14.0
1919	.....	17.9	15.7	1929	.....	15.6
1920	.....	17.5		1930	.....	12.9
1921	.....	14.4		1931	.....	14.1
1922	.....	14.8		1932	.....	13.9
1923	.....	13.8		1933	.....	15.2

TABLE IV.

Shewing the number of Births registered in each of the several Dispensary Districts, also the number of deaths of Infants under 1 year old.

DISTRICT			BIRTHS.				DEATHS
			1st Quarter 102	2nd Quarter 98	3rd Quarter 83	4th Quarter 96	Under 1 Year 72
No.	1	.....				
„	2	.....	256	261	238	217	108
„	3	.....	230	275	255	220	88
„	4	.....	217	230	184	188	71
„	5	.....	107	111	85	82	34
„	6	.....	129	120	101	111	43
„	7	.....	16	26	16	29	3
„	8	.....	35	56	42	40	12
„	9	.....	204	193	196	164	72
„	10	.....	173	200	146	161	76
„	11	.....	196	211	184	174	61
„	12	.....	162	178	139	130	83
„	13	.....	103	127	100	110	31
„	14	.....	—	2	2	—	—
„	15	.....	174	149	180	108	84
„	16	.....	124	130	98	125	42
Total			2,228	2,367	2,049	1,955	880

TABLE V.

Shewing the Population, the number of Births, the Birth Rate per 1,000, the number of Deaths the Death Rate per 1,000, and the natural increase during the fifty-three years 1881-1933.

Year	Population	No. of Births	Birth Rate per 1,000	No. of Deaths	Death Rate per 1,000	Natural Increase
1881	207,671	6,942	33.4	4,911	23.6	2,031
1882	207,671	6,820	32.8	5,365	25.8	1,455
1883	214,022	6,694	31.3	5,600	26.2	1,094
1884	216,622	7,231	33.4	5,073	23.4	2,158
1885	219,222	7,161	32.7	6,127	27.9	1,034
1886	221,822	7,344	33.1	5,256	23.7	2,088
1887	224,422	7,502	33.5	5,807	25.9	1,695
1888	227,022	7,719	34.0	5,742	25.3	1,977
1889	229,622	7,705	33.6	5,921	25.8	1,784
1890	232,222	8,250	35.5	6,861	29.5	1,389
1891	255,922	8,650	33.8	6,537	25.5	2,113
1892	261,046	8,592	32.9	6,910	26.5	2,166
1893	275,000	9,399	34.2	6,848	24.9	2,551
1894	285,000	9,349	32.8	6,615	23.2	2,734
1895	295,000	9,772	33.1	7,168	24.3	2,604
1896	300,000	10,378	34.5	6,953	23.2	3,425
1897	310,000	10,481	33.3	7,225	23.3	3,256
1898	340,000	11,234	33.0	7,768	22.8	3,466
1899	350,000	11,437	32.7	7,933	22.7	3,504
1900	359,000	11,192	31.2	7,642	21.3	3,550
1901	350,862	10,859	30.9	7,738	22.4	3,121
1902	360,000	11,113	30.5	7,577	20.8	3,536
1903	360,000	11,488	32.0	7,169	20.0	4,319
1904	360,000	11,323	31.6	7,474	20.8	3,849
1905	360,000	11,395	31.8	7,178	20.0	4,217
1906	366,220	11,355	31.0	7,379	20.1	3,976
1907	370,163	11,233	30.3	7,870	21.3	3,353
1908	380,344	11,490	29.7	7,523	19.5	3,967
1909	386,576	10,900	28.2	7,028	18.2	3,872
1910	391,167	10,888	27.8	7,284	18.6	3,604
1911	386,449	10,984	28.4	6,645	17.2	4,339
1912	391,974	10,884	27.8	7,111	18.1	3,733
1913	396,000	10,996	27.8	7,453	18.8	3,543
1914	399,000	11,337	28.0	7,663	18.9	3,674
1915	403,000	10,196	25.3	7,220	17.9	2,976
1916	390,000	9,415	24.1	6,496	16.7	2,919
1917	393,000	8,718	22.2	6,557	16.7	2,161
1918	393,000	9,282	23.6	8,920	22.7	362
1919	401,000	10,464	25.7	7,278	17.9	3,186
1920	413,000	12,144	29.4	7,234	17.5	4,910
1921	420,000	11,043	26.3	6,045	14.4	4,998
1922	425,000	10,667	25.1	6,304	14.8	4,363
1923	429,000	10,746	25.0	5,910	13.8	4,836
1924	434,000	10,594	23.9	6,329	14.3	4,265
1925	438,000	10,234	23.4	6,131	14.0	4,103
1926	416,000	10,356	24.9	6,411	15.4	3,945
1927	416,000	9,509	22.9	5,653	13.6	3,856
1928	415,151	9,356	22.5	5,804	14.0	3,552
1929	415,151	8,899	21.4	6,462	15.6	2,437
1930	415,151	9,558	22.7	5,451	12.9	4,107
1931	415,151	9,470	22.8	5,857	14.1	3,613
1932	415,151	8,882	21.4	5,783	13.9	3,099
1933	415,151	8,599	20.7	6,318	15.2	2,281

TABLE VI.

Comparative Table of Results in each of 52 weeks. Deaths in Public Institutions of persons *admitted from without the City omitted.*

29

BELFAST		Week Ending																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Jan. 7	Jan. 14	Jan. 21	Jan. 28	Feb. 4	Feb. 11	Feb. 18	Feb. 25	Mar. 4	Mar. 11	Mar. 18	Mar. 25	Apl. 1	Apl. 8	Apl. 15	Apl. 22	Apl. 29	May 6	May 13	May 20	May 27	June 3	June 10	June 17	June 24	July 1	July 8	July 15	July 22	July 29	Aug. 5	Aug. 12	Aug. 19	Aug. 26	Sept. 2	Sept. 9	Sept. 16	Sept. 23	Sept. 30	Oct. 7	Oct. 14	Oct. 21	Oct. 28	Nov. 4	Nov. 11	Nov. 18	Nov. 25	Dec. 2	Dec. 9	Dec. 16	Dec. 23	Dec. 30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Number of weeks in Annual Series		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Births Registered		195	171	147	170	156	207	170	146	177	197	161	169	162	160	161	195	197	185	212	181	184	158	181	171	207	165	163	142	186	145	169	148	151	145	163	167	142	179	149	132	157	146	166	149	152	144	154	187	157	151	144	116																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Number of Deaths		115	137	235	282	296	239	161	152	158	149	142	116	146	142	116	144	99	106	113	100	96	120	75	84	81	73	95	68	82	76	79	79	81	103	86	109	108	94	103	73	91	107	126	99	112	102	113	117	147	135	126	129																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Annual Death-rate per 1,000		14.4	17.2	29.5	35.5	37.2	30.0	20.2	19.1	19.8	18.7	17.8	14.6	18.3	17.8	14.6	18.1	12.4	13.3	14.2	12.6	12.1	15.1	9.4	10.6	10.2	9.2	11.9	8.5	10.4	9.5	9.9	9.9	10.2	12.9	10.8	13.7	13.6	11.8	12.9	9.2	11.4	13.4	15.8	12.4	14.1	12.8	14.2	14.7	18.5	17.0	15.8	16.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Ages	Under 1 year	17	10	18	28	31	26	34	17	27	17	24	20	23	32	24	32	19	19	17	9	9	12	9	12	5	7	12	9	16	9	18	12	15	17	13	28	18	13	19	9	15	12	10	11	13	13	13	12	18	17	24	16																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	1-5 years	9	12	23	19	40	33	15	12	12	14	13	14	16	16	13	11	7	6	6	8	5	10	7	6	4	2	7	3	2	3	4	4	5	4	7	4	3	7	3	4	5	2	4	6	6	4	3	6	7	7	6	4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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TABLE VII. (Continued).

CAUSES OF DEATH.	AGE																SEX		TOTAL.									
	Under 1 year.	1 year and under 2 years.	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	Total under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.		65 years and under 70 years.	70 years and under 75 years.	75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.	Males.	Females.	
30. Tuberculosis of genito-urinary system	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	2
31. Tuberculosis of other organs
32. Disseminated tuberculosis	1	.....	.....	.....	.....	1	.....	1	4	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	13	30
33. Leprosy
34. Syphilis
35. Other venereal diseases
36. Purulent infection, Septicaemia
37. Yellow fever
38. Malaria
39. Other diseases due to protozoa
40. Ankylostomiasis
41. Hydatid cysts
42. Other diseases due to helminths
43. Mycoses
44. Other infectious parasitic diseases
Totals of Infectious and Parasitic Diseases	62	64	33	13	9	181	19	31	57	81	80	75	64	53	40	51	53	37	35	34	17	18	9	.....	.....	461	474	935
11. CANCER AND OTHER TUMOURS.
45. Cancer of the buccal cavity and pharynx
46. Cancer of the digestive organs and peritoneum
47. Cancer of the respiratory organs
48. Cancer of the uterus
49. Cancer of other female genital organs
50. Cancer of the breast
51. Cancer of the male genito-urinary organs
52. Cancer of the skin
53. Cancer of other or unspecified organs
54. Non-malignant tumours
55. Tumours of undetermined nature
Totals of Cancer and other Tumours	1	1	1	1	4	.....	1	1	7	4	11	19	18	54	58	84	83	75	70	32	16	4	.....	.....	249	292	541

TABLE VII. (Continued)

CAUSES OF DEATH.	AGE															SEX.		TOTAL.									
	Under 1 year.	1 year and under 2 years.	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.		65 years and under 70 years.	70 years and under 75 years.	75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.	Males.	Females.	
111. Congestion and haemorrhagic infarct of lung, etc.	16	9	.....	1	.....	.....	.....	2	2	3	8	14	4	6	5	10	13	8	9	3	1	2	.....	.....	54	62	116
112. Asthma .....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	1	2	3	3	10	2	3	2	2	1	1	.....	.....	.....	20	14	34
113. Pulmonary emphysema .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	2	.....	.....	.....	.....	.....	.....	4	1	5	
114. Other diseases of the respiratory system	1	.....	.....	.....	.....	.....	1	1	2	2	.....	1	1	2	.....	2	1	1	2	.....	.....	.....	.....	8	9	17	
Totals of Respiratory System	218	134	29	12	7	10	4	16	19	22	31	31	46	42	68	77	94	110	110	70	43	19	.....	.....	596	616	1,212
IX. DISEASES OF THE DIGESTIVE SYSTEM.																											
115. Diseases of the buccal cavity, pharynx, etc.	1	3	.....	.....	1	2	.....	2	1	1	1	.....	.....	.....	1	.....	.....	2	.....	1	.....	.....	.....	.....	5	10	15
116. Diseases of the oesophagus .....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	2	5	1	6	11	1	3	.....	.....	.....	.....	.....	.....	24	14	38
117. Ulcer of the stomach or duodenum	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	12	15	27
118. Other diseases of the stomach	146	16	3	3	.....	.....	1	4	1	3	1	2	3	2	1	1	3	3	5	.....	1	1	.....	.....	98	94	192
119 and 120. Diarrhoea and enteritis .....	.....	.....	.....	1	.....	.....	2	7	2	2	1	3	3	2	1	1	3	3	.....	1	.....	.....	.....	.....	21	14	35
121. Appendicitis .....	.....	.....	.....	.....	.....	.....	1	.....	4	2	1	1	1	1	2	6	3	9	4	1	.....	.....	.....	.....	30	18	48
122. Hernia, Intestinal obstruction	7	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	1	8
123. Other diseases of the intestines	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	1	3	1	2	1	1	.....	.....	.....	.....	6	3	9
124. Cirrhosis of the liver .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	4	7
125. Other diseases of the liver	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
126. Biliary calculi .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
127. Other diseases of the gall bladder and ducts .....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	3	1	1	1	1	3	4	4	2	3	.....	.....	.....	.....	6	20	26
128. Diseases of the pancreas	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	2	1	3
129. Peritonitis without stated cause	1	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	1	1	.....	.....	1	.....	.....	.....	.....	.....	7	3	10
Totals of Digestive System	165	19	4	4	1	9	4	13	11	12	11	11	20	13	16	32	18	28	18	6	2	3	.....	.....	223	197	420
X. NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA.																											
130. Acute nephritis	1	.....	1	.....	.....	.....	.....	.....	3	1	.....	1	2	.....	11	1	2	1	2	3	.....	.....	.....	.....	8	7	15
131. Chronic nephritis .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	4	4	8	.....	6	10	13	9	4	1	.....	.....	.....	40	36	76
132. Nephritis not stated to be acute or chronic .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	2	3	1	11	6	8	7	3	2	3	1	.....	.....	33	19	52
133. Other diseases of the kidney and annexa	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	10	12
134. Calculi of the urinary passages	2	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	1	1	.....	1	.....	3	1	.....	.....	.....	.....	2	3	6
135. Diseases of the bladder .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....

[illegible]

TABLE VII. (Continued)

CAUSES OF DEATH.	AGE.																SEX.		TOTAL.									
	Under 1 year.	1 year and under 2 years.	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	Total under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.		65 years and under 70 years.	70 years and under 75 years.	75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.	Males.	Females.	
179. Other acute accidental poisoning (not by gas) .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
180. Conflagration .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
181. Accidental burns (conflagration excepted) .....	.....	.....	.....	.....	.....	30	2	5	3	.....	.....	1	1	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
182. Accidental mechanical suffocation .....	.....	12	11	4	3	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
183. Accidental drowning .....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
184. Accidental injury by firearms .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
185. Accidental injury by cutting or piercing instruments .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
186. Accidental injury by fall, crushing, etc. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
187. Catadysm .....	.....	3	1	.....	1	5	6	6	4	.....	5	5	1	2	2	3	3	3	3	2	1	2	2	.....	.....	.....	.....	.....
188. Injury by animals (poisoning by venomous animals excepted) .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
189. Hunger or thirst .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
190. Excessive cold .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
191. Excessive heat	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
192. Lightning .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
193. Electricity (lightning excepted) .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
194. Other and unstated forms of accidental violence	3	.....	.....	.....	1	4	1	1	2	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
195. Violent deaths of unstated nature (i.e., accidental, suicidal, etc.)	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
196. Wounds of war .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
197. Execution of civilians by belligerent armies .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
198. Execution .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals from Violence	9	16	12	4	5	46	10	12	11	3	7	9	9	4	8	7	12	9	9	7	4	5	3	1	103	65	168	.....
XVIII. ILL-DEFINED DISEASES.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
199. Sudden death .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
200. Cause of death unstated or ill-defined	6	.....	.....	.....	.....	6	1	.....	.....	2	1	.....	2	4	3	6	8	9	9	4	7	7	4	1	.....	.....	.....	.....
Totals from Ill-defined diseases	6	.....	.....	.....	.....	6	1	.....	.....	2	1	1	2	4	3	7	8	9	9	4	9	7	4	1	.....	.....	.....	.....
TOTALS FROM ALL CAUSES	855	261	88	37	27	1,268	77	78	125	159	170	181	185	219	250	361	450	509	555	595	411	249	136	2	2,906	3,104	6,010	.....

TABLE VIII.

Shewing the Number of Deaths registered as having been caused by Phthisis and Diseases of the Respiratory Organs during the twenty years, 1914/1933 :—

Year		Population	Phthisis	Rate per 1,000	Diseases of the Respiratory System			Total Chest Affections
					Pneumonia	Others	Total	
1914	.....	399,000	836	2.1	701	929	1,630	2,466
1915	.....	403,000	813	2.0	738	929	1,667	2,480
1916	.....	390,000	830	2.1	506	670	1,176	2,006
1917	.....	393,000	932	2.4	614	825	1,439	2,371
1918	.....	393,000	1,051	2.7	1,412	1,608	3,020	4,071
1919	.....	401,000	853	2.1	712	1,104	1,816	2,669
1920	.....	413,000	762	1.8	800	766	1,566	2,328
1921	.....	420,000	677	1.6	511	520	1,031	1,708
1922	.....	425,000	624	1.5	594	648	1,242	1,866
1923	.....	429,000	571	1.3	564	573	1,137	1,708
1924	.....	434,000	605	1.4	623	720	1,343	1,948
1925	.....	438,000	575	1.3	517	646	1,163	1,738
1926	.....	416,000	570	1.4	516	630	1,146	1,716
1927	.....	416,000	515	1.2	479	526	1,005	1,520
1928	.....	415,151	499	1.2	521	542	1,063	1,562
1929	.....	415,151	485	1.2	680	761	1,441	1,926
1930	.....	415,151	436	1.0	357	482	839	1,275
1931	.....	415,151	452	1.1	518	479	997	1,449
1932	.....	415,151	448	1.1	539	461	1,000	1,448
1933	.....	415,151	429	1.0	583	605	1,188	1,617

GENERAL PROVISIONS OF HEALTH SERVICES FOR THE AREA.

Hospitals Provided or Subsidised by the Sanitary Authority or by The County Council.

Purdysburn Fever Hospital.

Purdysburn Fever Hospital was opened for the reception of persons suffering from infectious diseases, in August, 1906, with accommodation for 168 patients.

The Hospital is built on the pavilion system, separate blocks being provided for each of the notifiable infectious diseases, with separate administration block, nurses' home, etc., and a suitable isolation block.

The accommodation soon proved insufficient, and in the year 1911 the Public Health Committee decided to increase the accommodation by two additional two-storey buildings and by enlarging the diphtheria block. This extension provided accommodation for 100 beds, bringing the total up to 268 beds. Even with the additional accommodation thus provided, the hospital on several occasions especially during the recurring epidemics of scarlet fever, proved to be far short of the city's requirements, and in the years 1922 and 1923 the Corporation authorised the enlargement of Nos. 3 and 4 pavilions respectively, together with the provision of additional accommodation for the staff and a new laboratory. These extensions brought the accommodation up to 325 beds.

There is a Smallpox Hospital situated in the same grounds but completely isolated in its own compound. It is self-contained having accommodation for 50 patients in four pavilions with separate administration block and nurses' home and an isolation pavilion.

Union Fever Hospital.

The accommodation for patients in the Union Fever Hospital is 450 beds.

The Hospital is under the control of the Belfast Board of Guardians.

The principal hospitals available for the area which do not come within the scope of "grant" are as follows. All these are honoured and esteemed by all men who realise the admirable work carried out from year to year therein:

The Royal Victoria Hospital.

The Mater Infirmorum Hospital.

Children's Hospital, Falls Road.

The Benn Hospital.

Samaritan Hospital.

Hospital for Nervous Diseases, Claremont Street.

Ophthalmic Hospital, Great Victoria Street.

The Throne Hospital.

It should be understood that this list is not necessarily a complete one.

Tuberculosis.

While the Reports on Graymount and Whiteabbey Sanitoria, by my colleagues Drs. Trimble and Walker, will be found in the body of this Report, the following particulars will be of interest. :—

		Municipal Sanatorium, Whiteabbey.	Municipal Hospital for Tuberculous Children, Graymount, and Open-air Day School.
Extent	.....	..... 33 acres.	15 acres and 2 roods.
No. of Beds	.....	..... 285 (all forms).	58 (non-pulmonary). 150 Places for delicate contacts at Day School.
No. of Teachers	.....	..... Two	Four.
Hours of School	.....	..... 9-15 a.m.—3-15 p.m.	9-30 a.m.—2-30 p.m. Winter. 9-30 a.m.—3-30 p.m. Summer. (including rest hour and dinner).
Accommodation for Nurses	.....	..... 16 bedrooms & 3 sitting rooms	1 bed-sitting room. 2 sitting rooms. 7 bedrooms.
Visiting Days	.....	..... Wednesdays and Sundays 2 till 4 p.m.	Wednesdays and Sundays, 2 till 4 p.m.

MATERNITY.

Royal Maternity Hospital, Grosvenor Road.

The Royal Maternity Hospital, erected in the grounds of the Royal Victoria Hospital, was officially opened on the 21st October, 1933. It takes the place of the Incorporated Maternity Hospital, Townsend Street, which had become too small to meet the increasing demands upon its accommodation.

The accommodation of the Royal Maternity Hospital consists of 100 beds, Nurseries, ante-natal out-patient clinics, ante-natal ward, isolation ward, mothers' instruction room, work room, rest room, class room, study room and a laboratory are also provided.

The Corporation have decided, with the approval of the Ministry of Home Affairs, to transfer the grant of £1,000 per annum, which was formerly given to the ante-natal section of the Townsend Street Hospital, to the Royal Maternity Hospital, subject to the services being given to the satisfaction of the Medical Superintendent Officer of Health and to the Maternity and Child Welfare Committee having representation on the Governing Committee.

**ANTE NATAL REPORT OF THE ROYAL MATERNITY HOSPITAL,
FOR THE YEAR ENDED 31st DECEMBER, 1933.**

Total number of new patients	.....	.....	.....	.....	.....	1,500
do. re-attendances	.....	.....	.....	.....	.....	5,041
Total examinations	.....	.....	.....	.....	.....	6,541

The Ante-Natal Patients admitted to the Hospital were as follows :—

For confinement	.....	.....	.....	.....	.....	588
treatment and confinement	.....	.....	.....	.....	.....	60
treatment	.....	.....	.....	.....	.....	225
operations	.....	.....	.....	.....	.....	22
						<hr/> 895
Non Ante-natal patients admitted to Hospital	.....	.....	.....	.....	.....	240
Total admissions during year	.....	.....	.....	.....	.....	1,135
						<hr/>
Ante-Natal patients confined in District	.....	.....	.....	.....	.....	173
Non Ante-Natal patients do.	.....	.....	.....	.....	.....	9
						<hr/> 182

Thorndale Home (The Salvation Army).

This home which receives a grant of £300 per annum from the Corporation is situated in its own grounds, Duncairn Avenue. The site is somewhat unique the institution being relatively isolated on rising ground, thus receiving the maximum of sunshine and air perflation. The assistance of the lady in charge, Major Walton, was sought in the preparation of these notes.

Reports on the various Sections of work carried on at above home during 1933.

There are the following Departments :—

- (1) A Maternity Home for the unmarried mother.
- (2) Wards for Private patients.
- (3) An Industrial Home for young girls.
- (4) An After-care Home for those who have gone through our hands.

Maternity Home. There is accommodation for 23 expectant unmarried mothers, and the following is a brief review of the work done during 1933 in this department.

- 30 Unmarried Mothers admitted.
- 20 Confinements took place.
- 4 Girls sent to situations.
- 19 Girls sent home to friends.
- 9 Babies sent to "Nurse Mothers."
- 5 Babies admitted.
- 3 Babies died.
- 20 Girls in Home end of year.
- 18 Babies in Home end of year.

The majority of the patients were kept in the home from four to six months after the birth of child so that the little one might be breast fed and by that means give it a fair chance at the beginning of its life.

Private Patients' Department. 50 confinements took place in connection with this department. Some of the patients were unable to come into the Home for domestic reasons and were attended on the District. Attached also to this department are the Ante-Natal and Baby Clinics for the weighing of the little ones and the giving of advice generally to mothers.

Aftercare Home. The secret of success is keeping in touch with the girls after they have left the Home. At this department the girls can return when they have their free time for a holiday, they may bring their little ones from the "Nurse Mothers" and remain until it is time for them to return to their situations. An Officer is set apart for this work and arranges to have Tea Table talks with them. The visits per month average over 600.

Shelter for Poor and Stranded Women. Here there is accommodation for 30 Women. Temporary help is given and situations found, and also many free beds and meals are provided.

The Belfast Midnight Mission and Rescue and Maternity Home.

This Home was founded in 1860 and is situated at No. 31 Malone Place. This institution is carrying out work of a high order, and receives a grant of £300 per annum from the Corporation. 300 women and 9 children were admitted to the Rescue Ward during the year and received one or more night's lodging and food—some indeed, remained in residence for several weeks.

During the year there were 131 confinements, 38 of which were private patients (married); 5 babies were still-born; 1 infant died. 67 women were attended on the district by the nurses. 197 expectant mothers were seen at the ante-natal clinic by Dr. Robb, with 377 attendances.

Infants born in the home are kept in the institution until such time as arrangements can be made for a foster mother, where such is desired. The accommodation is made up of 27 beds for unmarried mothers placed in five wards; in one of the wards there are 14 beds, in another 7 beds. 3 beds for private patients are provided in two rooms.

The ante-natal department consists of one examination room and two waiting rooms.

A fee of two-guineas per week is charged for private patients.

The staff consists of the matron and three nurses holding the C.M.B. Certificate. There are also five probationers.

The Ulster Hospital, Templemore Avenue.

This excellent Hospital receives an annual grant of £250 from the Corporation. During 1933 there were 735 admissions to the Childrens' department, while 7,743 children were treated as out-patients. 362 women were admitted and 1,510 were treated at the out-patient department. The new cases in the Maternity department numbered 147. 1,725 operations were performed. For Maternity cases there are two beds in one ward and there are ten beds for women in another ward. For children the accommodation consists of 54 cots in two wards. There are also two balconies, one isolation ward and a sun parlour.

The Ante-Natal cases treated in this hospital during the year were as follows :

New cases in Out-patient Department	.....	205
Return cases in Out-patient Department	.....	447
Cases admitted to Hospital	.....	45

Out of the 735 intern admissions to the Children's Department, 48 died giving a death rate of only 6.53 per cent.

The resident staff consists of :—

- 2 House Surgeons.
- 1 Matron.
- 6 Sisters.
- 18 Probationers.
- 1 Masseuse (part-time).

MIDWIVES AND NURSING HOMES ACT (NORTHERN IRELAND), 1929.

Registration and Inspection of Nursing Home.

Under the above Act it is necessary for any person who carries on a Nursing Home to be registered with the local Authority of the district in which the Nursing Home is situated.

The Act requires that application for registration shall be made to the local authority in writing in the form prescribed by the Ministry of Home Affairs, and shall be accompanied by a fee of five shillings.

At the beginning of the year there were 43 Nursing Homes on the Register for the City. During the year 4 new registrations were effected and 4 registrations were cancelled, leaving a similar number (43) on the register at the close of the year.

The Nursing Homes were inspected periodically, 136 visits being made during the year, and on each inspection the equipment, staffing, keeping of registers, etc., were found to be in conformity with the Act and Regulations.

142 deaths occurred in Nursing Homes, of these 34 were deaths of Children born in the Homes.

AMBULANCE FACILITIES.

(a) For Infectious Cases.

(b) For Non-Infectious and Accident Cases.

(a) Infectious Cases.

Three ambulances (the property of the Belfast Corporation and garaged at Purdysburn Fever Hospital) are available for the conveyance of Infectious Diseases cases to this Hospital.

Three ambulances (the property of the Belfast Board of Guardians and garaged at Union Workhouse) are available for the conveyance of all stretcher cases to the Union Hospitals. These cases include the minor Infectious Diseases, such as Measles, Whooping Cough, etc.

All the above ambulances are disinfected on return after each journey.

(b) Non-Infectious Cases.

Four ambulances the property of the Belfast Corporation and stationed at the Central and Branch Fire Brigade Stations are available for the removal of non-infectious cases to Hospitals and Nursing Homes. Each case (except accident cases) must be so certified by a medical practitioner. There is a fee of 1/- per mile return journey, charged to the person requisitioning the Ambulance. These ambulances are free of charge and at the immediate call of any person in the case of accidents.

CLINICS AND TREATMENT CENTRES.

Child Welfare Centres.

DAY	CENTRE.	TIME	MEDICAL OFFICER.
Monday	..... Danube Street	..... 2—5 p.m.	..... Dr. Darling.
	..... Donegall Road	..... 2—5 p.m.	..... Dr. Elliott.
	..... Mervue Street	..... 2—5 p.m.	..... Dr. Watson
Tuesday	..... Dee Street	..... 2—5 p.m.	..... Dr. Price.
	..... Falls Road	..... 2—5 p.m.	..... Dr. Watson
	..... Charlotte Street	..... 2—5 p.m.	..... Dr. McNeill.
Wednesday	..... York Street	..... 2—5 p.m.	..... Dr. Watson.
	..... Ligoniel	..... 2—5 p.m.	..... Dr. Price.
	..... Woodstock Road	..... 2—5 p.m.	..... Dr. Pollock.
Thursday	..... Shankill Road	..... 2—5 p.m.	..... Dr. Darling.
	..... Dee Street	..... 2—5 p.m.	..... Dr. Price.
	..... Hillview Street	..... 2—5 p.m.	..... Dr. Watson.
Friday	..... Gilford Street	..... 2—5 p.m.	..... Dr. Elliott.
	..... Shankill Road	..... 2—5 p.m.	..... Dr. Watson.

Ante-Natal Clinics.

DAY.	CENTRE	TIME.	MEDICAL OFFICER.
Monday	..... Danube Street	..... 10 a.m. till 12 noon	..... Dr. Pollock
	*Y.M.C.A. Mt. Pottinger	..... 2 p.m. till 5 p.m.	..... do.
Tuesday	..... Dee Street	..... 10 a.m. till 12 noon	..... do.
	*Mervue Street	..... 2 p.m. till 5 p.m.	..... do.
Wednesday	..... York Street	..... 10 a.m. till 12 noon	..... do.
Thursday	..... Shankill Road	..... 10 a.m. till 12 noon	..... do.
	*Falls Road	..... 2 p.m. till 5 p.m.	..... do.
Friday	..... Gilford Street	..... 10 a.m. till 12 noon	..... do.
	..... Donegall Road	..... 2 p.m. till 5 p.m.	..... do.

*Additional Clinics commenced 1st October.

Wednesdays and	Belfast Maternity Hospital	9-30 a.m. till 12 noon
Saturdays	..... Townsend Street	do.
Do.	Ulster Hospital	do.
	Templemore Avenue.	

Tuberculosis Clinics.

Central Tuberculosis Institute, Durham Street.	.....	Daily 9-30 a.m. till 5 p.m.
Tuberculosis Institute, 225 Albertbridge Road.	.....	Daily 9-30 a.m. till 5 p.m.

SCHOOL CLINICS.

Central³/₄ Clinic, Old Town Hall, Victoria Street.

ACCOMMODATION.	SESSIONS.
Inspection Clinic.	Daily, 2—5 p.m. (except Saturdays).
Minor Ailments Clinic.	Tuesdays and Thursdays at 3 p.m. Saturdays at 9-30 a.m.
Eye, Ear, Nose and Throat Clinics.	Mondays, Tuesdays, Wednesdays, and Thursdays at 10 a.m. Alternate Tuesdays and Thursdays—Operations.
Tonsils and Adenoids Operation Clinic.	Every alternate Tuesday and Thursday.
Dental Clinics.	Daily (except Saturdays), 9-30 a.m.
Artificial Light Clinic.	Tuesdays and Fridays, 9-30 a.m.
Head Cleansing Clinic.	Daily (except Saturdays), 9-30 a.m.
Special Case Clinic.	Every Saturday, 9-30 a.m.

North-West Clinic, 4 Crumlin Road.

Inspection Clinic.	Daily (except Saturdays), 2—5 p.m.
Minor Ailments Clinic.	Tuesdays and Thursdays, 3 p.m. Saturdays, 10 a.m.
Eye Clinic.	Tuesdays, 10 a.m.
Nose and Throat Clinic.	Saturdays, 10 a.m.
Dental Clinic.	Daily (except Thursdays and Saturdays), 9-30 a.m.
Artificial Light Clinic.	Mondays, 3-30 p.m., Thursdays, 3-30 p.m.
Head Cleansing.	Daily (except Saturdays), 9-30 a.m.
Special Case Clinic.	Every Saturday, 9-30 a.m.

Ballymacarrett Clinic, 28 The Mount.

Inspection Clinic.	Mondays, Wednesdays, Thursdays and Fridays, 2—5 p.m.
Minor Ailments Clinic.	Tuesdays and Thursdays, 3 p.m., Saturdays, 10 a.m.
Eye Clinic.	Tuesdays, 2 p.m.
Nose and Throat Clinic.	Fridays, 2 p.m.
Dental Clinic.	Mondays, Wednesdays, Thursdays and Fridays, 9-30 a.m.
Head Cleansing Clinic.	Daily, at 9-30 a.m. (except Saturdays).
Special Case Clinic.	Saturdays, at 9-30 a.m.

Venereal Diseases Clinics.

Royal Victoria Hospital, Grosvenor Road.	Daily, 9 a.m.—11 a.m. (Sundays excepted). Mondays, 7 p.m.—Tuesdays till Saturdays, 6-45 p.m.
Mater Infirmorum Hospital, Crumlin Road.	Tuesdays & Saturdays, 9-30 a.m.—11-30 a.m. Thursdays, 8 p.m.—10 p.m.
Union Infirmary, Lisburn Road.	Daily, from 11 a.m., for admissions.

STAFF.

Medical Superintendent Officer of Health and Port Medical Officer :
CHARLES SAMSON THOMSON, M.D., M.R.C.P., D.P.H., B.Hy., F.R.S.I.,
 Etc. (Lecturer in Practical Public Health Administration and Intern Examiner,
 Queen's University, Belfast).

Assistant Medical Superintendent Officer of Health and Executive Sanitary Officer,
and Assistant Port Medical Officer.
SAMUEL BARRON, M.R.C.P., D.P.H.

Chief Tuberculosis Officer :
ANDREW TRIMBLE, M.B., B.Ch., D.P.H., J.P.

Chief School Medical Officer :
THOMAS F. S. FULTON, M.B., B.Ch., D.P.H.

Medical Superintendent, Purdysburn Fever Hospital :
A. GARDNER ROBB, M.B., B.Ch., D.P.H.

Resident Medical Superintendent, Municipal Sanatorium, Whiteabbey :
PERCY S. WALKER, M.D., B.Ch., D.P.H.

Visiting Surgeon, Municipal Hospital for Tuberculous Children, Graymount :
HENRY P. MALCOLM, M.C., M.B., M.Ch.

City Bacteriologist :
GEORGE F. TINSDALE, M.B., B.Ch., B.Sc.

Maternity and Child Welfare Medical Officers :
GRACE K. POLLOCK, M.B., B.Ch., B.A.O., D.P.H.
OLIVE M. DARLING, M.B., B.Ch., D.P.H. (part-time).
ANNA WATSON, M.B., B.Ch., B.A.O., D.P.H. do.
MURIEL G. PRICE, M.B., B.Ch., B.A.O., D.P.H. do.
MARGARET ELLIOTT, M.B., B.Ch., B.A.O., D.P.H. (part-time).

Veterinary Inspector, Diseases of Animals Acts :
J. EWING JOHNSTON, M.B.E., M.R.C.V.S. (part-time).

City Veterinarian and Veterinary Inspector of Dairies and Cowsheds :
ALEXANDER McLEAN, M.R.C.V.S., D.V.H.

Public Analyst :
J. HAROLD TOTTON, B.A., B.Sc., F.I.C.

Assistant Tuberculosis Medical Officers :
J. SHAW, M.B., B.Ch., D.P.H.
T. R. V. IRWIN, M.B., B.Ch., D.P.H.
H. McMASTER, L.R.C.P. Ed., D.P.H.
E. P. DEWAR, L.R.C.P. Ed.

Assistant School Medical Officers :

H. A. WARNOCK, M.D., D.P.H., B.Sc.
 F. J. DEMPSEY, B.A., L.L.B., M.B., D.P.H.
 EILEEN H. DOWSE, M.B., D.P.H.
 ANNA WATSON, M.B., D.P.H. (Part-time).

Resident Medical Officers :

F. F. KANE, M.D., M.R.C.P.I., D.P.H., Purdysburn Fever Hospital.
 J. CARSON, M.B., B.Ch., Purdysburn Fever Hospital.
 J. BOYD, M.B., B.Ch., Purdysburn Fever Hospital.
 D. K. WATTERSON, M.D., B.Ch., D.P.H., Whiteabbey Sanatorium.
 A. LAVELLE, M.B., B.Ch., Whiteabbey Sanatorium.

Visiting Medical Officer, Whiteabbey Sanatorium

J. C. RANKIN, M.D., B.Ch.

Ophthalmic Specialists, etc. :

T. W. G. HOGG, M.B., B.Ch. (part-time), School Medical Services.
(Ophthalmic and Aurist Specialist).
 I. A. DAVISON, B.A., M.D., D.P.H. (part-time), School Medical Services.
(Ophthalmic Specialist).
 WM. S. GIBSON, M.B., B.Ch. (Hons.), (part-time), School Medical Services.
(Aurist Specialist).

Dentists :

C. H. MATTHEWS, L.D.S.	(part-time)	School Medical Services.
A. S. IRVINE, L.D.S.	do.	do.
T. J. GILMORE, L.D.S.	do.	do.
V. G. RATTIE, L.D.S.	do.	do.
O. BLACK, L.D.S.	do.	Tuberculosis Dept.

HEALTH VISITORS AND NURSES.**Maternity and Child Welfare :**

2 Superintendents of Midwives.
 19 Health Visitors.

Purdysburn Fever Hospital :

Matron—Miss P. E. SWARBRICK.
 Asst. Matron—Miss E. R. GRAHAM.
 11 Ward Sisters.
 58 Nurses.

Whiteabbey Sanatorium :

Matron—Miss E. WOODS, S.R.N.
 6 Sisters.
 6 Staff Nurses.
 25 Probationers.

Municipal Hospital for Tuberculous Children, Graymount :

Matron—Miss A. E. LYNESS, S.R.N.

1 Sister.

3 Staff Nurses.

7 Probationers.

Tuberculosis Institute :

11 Visiting Nurses.

School Medical Services :

14 School Nurses.

PUBLIC HEALTH DEPARTMENT.**Sanitary Sub-Officers, Etc.**

Divisional Inspector,	W. J. SEFTON—South Division.
do. do.	J. B. BOYD—North Division.
do. do.	S. DENNISON—West Division.
do. do.	T. SHANNON—East Division.

15 District Sanitary Sub-Officers.

3 Sanitary Sub-Officers—Factory and Workshops—1 Male and 2 Female.

1 Dairy and Cowsheds Inspector (who is also employed part-time under Diseases of Animals Acts).

5 Sale of Food and Drugs Acts Inspectors.

5 Meat Inspectors.

1 Port Sanitary Officer.

1 Lodging House Inspector.

1 Inspector i/c Disinfectors.

4 Assistant Disinfectors.

1 Manager, Disinfecting Station.

1 Assistant Disinfecter, Disinfecting Station.

1 Assistant (Female), at Disinfecting Station.

1 Motor Driver, at Disinfecting Station.

2 Assistant Drain Testers.

1 Storeman.

1 Time and Complaints Clerk.

1 Notice Server.

Clerical Staff.

1 Chief Clerk.

2 Assistants to Chief Clerk.

2 Clerks in charge of Divisions.

3 Senior Clerks.

5 Junior Clerks.

1 Shorthand Writer and Typist.

1 Storeman and General Clerical Attendant.

1 Clerk at Meat Inspection Department.

MATERNITY AND CHILD WELFARE.**Clerical Staff.**

1 Senior Clerk.

3 Female Clerks.

1 Junior Clerk.

District Medical Officers of Health (part-time) who are the Dispensary Medical Officers under the Poor Law :

No.	1	Dispensary	District—	Dr. H. A. SKILLEN.
	2	do.	do.	Dr. D. KINLEY.
	3	do.	do.	Dr. R. ENGLISH
	4	do	do.	Dr. A. C. GARDINER.
	5	do.	do.	Dr. R. HALL.
	6	do.	do.	Dr. G. SCARLETT.
	7	do.	do.	Dr. D. WILSON.
	8	do.	do.	Dr. C. J. MILLIGAN.
	9	do.	do.	Dr. J. KENNEDY.
	10	do.	do.	Dr. S. WALLACE.
	11	do.	do.	Dr. T. E. HILL.
	12	do.	do.	Dr. J. D. HAMILTON.
	13	do.	do.	Dr. H. R. IRVINE.
	14	do.	do.	Dr. W. D. DONNAN.
	15	do.	do.	Dr. T. J. KERR.
	16	do.	do.	Dr. H. D. HEASLEY.

PROFESSIONAL NURSING IN THE HOME.

“The Society for Providing Nurses for the Sick Poor, Belfast,” employs a staff of eleven nurses for district work. The nurses visit the poor in their own homes and in cases of illness apply such ministrations and assistance as may be required. Members of the medical profession as well as the clergy of all denominations are invited to bring deserving cases under the notice of the District Matron, but no case can be regularly attended by a nurse unless seen by a doctor.

The Society is dependent upon voluntary subscriptions and gifts in kind to enable it to carry on the magnificent work of alleviating human suffering and caring for the sick poor.

The Corporation has no working arrangement with the Society, but any cases referred to the Society by the Medical Officers of the Public Health services have always received the willing attention of the district nurses.

The district nurses do not attend infectious cases. It is hoped that in the near future the Corporation will come to an arrangement for the home nursing of cases of Measles, Whooping Cough, etc., by the district nurses. Such an arrangement would relieve hospital strain during an epidemic and would also tend to lessen the mortality rate of these diseases.

MIDWIVES.

During the year, 225 midwives gave the required notice of their intention to practice, of these 209 were certified by examination and 16 otherwise certified.

In order to ensure compliance with the Rules and Regulations of the Joint Nursing and Midwives' Council, the midwives were visited at intervals throughout the year by the Superintendent of Midwives, both at their homes and also at the homes of cases being attended by them. Special attention was given to the personal cleanliness of the midwives and the condition of their homes and the necessary appliances. The register containing the entries of births attended by them were examined, and were, with very few exceptions, found to be correctly kept.

A number of breaches of the Rules and Regulations were discovered and reported to the Medical Superintendent Officer of Health or the Maternity and Child Welfare Committee.

In cases where artificial feeding was resorted to, instructions as to the absolute necessity of cleanliness of the bottles and teats were given. Mothers were also advised to take advantage of the Child Welfare Centres, the benefits both to themselves and their infants being explained to them.

17 cases of Ophthalmia Neonatorum occurred during the year. All of these completely recovered.

118 cases of Inflammation of Eyes occurred during the year.

54 cases of Puerperal Pyrexia occurred during the year, of these 5 died.

EMERGENCY CASES.

Under the Midwives (Ireland) Act, 1918, and the Midwives and Nursing Homes Act (Northern Ireland), 1929, any Medical Practitioner who may be called in by a midwife in an emergency case is entitled to a fee (under certain circumstances) payable by the Local Supervising Authority.

During the year the services of Medical Practitioners were requisitioned by midwives in 359 emergency cases, and the Corporation, as the Local Supervising Authority, paid in fees £257 7s. 0d. for attendances in 139 cases.

SUMMARY.

Number of Midwives who notified their intention to practise :—

Certified by examination	.....	.....	209
Otherwise Certified	.....	.....	16
			<hr/> 225

SUMMARY OF VISITS AND GENERAL INFORMATION WITH RESPECT TO THE ENFORCEMENT OF THE PROVISIONS OF THE ACT AND RULES AND REGULATIONS MADE PURSUANT THERETO.

Visits by Superintending Midwives :—

To Midwives certified by examination	.....	.....	1,083
To Midwives otherwise certified	.....	.....	161
Total Visits to Midwives	.....	.....	1,244
To cases attended by Midwives	.....	.....	718
To Nursing Homes	.....	.....	143
Re Puerperal Fever	.....	.....	8
Re Puerperal Pyrexia	.....	.....	50
Re Ophthalmia Neonatorum and Inflamed Eyes	.....	.....	174
Re Rise of Temperature	.....	.....	9
To Babies' Homes	.....	.....	26
Re Medical Fees	.....	.....	415
Re Maternal Mortality	.....	.....	58
Re Still Births	.....	.....	118
Miscellaneous Visits	.....	.....	123

Births :—

Attended	by Medical Practitioners and Midwives	.....	2,666
„	only by Midwives certified by examination	.....	3,577
„	by Midwives otherwise certified	.....	188
„	in Union Maternity Hospital	.....	997
„	in other Maternity Hospitals	.....	910
„	by Nurses from Maternity Hospitals	.....	222
„	in Malone Place Home	.....	119
„	in Thorndale Home	.....	69
„	in Nursing Homes	.....	528

Notifications received by Medical Superintendent Officer of Health :—

Under Form	A.—Sending for Medical help	.....	359
„	„	B.—Notification of Death	..... 3
„	„	C.—Notification of Still birth	..... 442
„	„	D.—Notification of having laid out a Dead Body	..... 6
„	„	E.—Source of Infection	..... 15
„	„	F.—Artificial Feeding	..... 34

Irregularities :—

Number of Midwives reported to Medical Superintendent Officer of Health or Maternity and Child Welfare Committee	.....	6
Number of Midwives suspended	.....	13
Number of Midwives Reported to Joint Nursing and Mid- wives Council	.....	1
Unregistered Woman Found Practising	.....	1

Number of Midwives disinfected owing to :—

Puerperal Fever	.....	4
do. Pyrexia	.....	6
Rise of Temperature	.....	27
Scarlet Fever	.....	8
Diphtheria	3
Erysipelas	2
Measles	1
Pemphigus	1

Number of Midwives who died	3
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NOTIFICATION OF BIRTHS ACT.

9,371 births were notified pursuant to the Notification of Births Act and in addition 95 were either discovered by Health Visitors or notified by the Registrars of Births, making a total of 9,466 ; of these 4,955 were males and 4,511 were females ; 442 were stillbirths and 418 were illegitimate births.

Of the total number notified 7,201 were selected for visitation and supervision, and during the year 42,211 visits were made.

On visiting a house where a birth has taken place the Health Visitor makes enquiries regarding the family history and with respect to the conditions obtaining in the home. She also makes an examination of the sanitary arrangements, and if any defect is discovered immediate remedial measures are taken.

She gives advice and instruction as to the care of infants and young children, the preparation of food and the storage of milk, butter, &c., and the precautions to be taken to prevent infectious disease.

For a period of twelve months the child is kept under special supervision and its progress recorded, and the mother is advised to attend the Child Welfare Centre in the district in which she resides. After this period there is a general supervision exercised by the Officers in the district, and if children are delicate or not thriving they are kept under supervision as long as is considered necessary.

MATERNITY AND CHILD WELFARE.

There were 12 Centres (14 sessions) in operation during the year, situated at Donegall Road, Danube Street, Mervue Street, Dee Street, Falls Road, York Street, Woodstock Road, Hillview Street, Shankill Road, Gilford Street, Charlotte Street and Ligoniel. Ten of these Centres were open one afternoon per week and two were open two afternoons per week, when a Medical Practitioner, properly trained and qualified Health Visitors together with several Voluntary Workers were in attendance.

The work of the Centres consists of a thorough medical examination of babies and medical advice as to their treatment where such is required. Each baby is weighed periodically and the weight recorded in order to ascertain the progress being made and to assist in the discovery of defects or ailments at the earliest possible moment and thus prevent or check any disease which may impede its progress or have a detrimental effect upon its after life. Consultations are held with mothers with respect to their health, and they are advised and instructed in the care of infants and young children and are supplied with instructive literature on the subject. Food, such as Ostermilk, Trufood, Cow and Gate, etc., is supplied at cost price, or free to cases where it is considered the circumstances warrant it. In addition to assisting in the regular work of the Centres, the ladies who assisted voluntarily throughout the year very kindly provided suitable clothing for babies at a nominal charge.

The following table shews the number of names on the roll of each Centre, and the total number of attendances during the year, also the number of babies medically examined and the total number of examinations :—

TABLE No. IX.

	On Roll.	Total No of attendances by mothers.	Babies medically Examined.	Total medical examinations of babies.
Danube Street	810	8,073	446	1,326
Donegall Road	714	6,153	562	1,135
Dee Street (two sessions) 1,001		11,503	766	2,284
York Street	523	5,036	382	1,688
Shankill Rd. (two sessions) 728		8,832	487	2,323
Falls Road	533	4,278	477	1,425
Charlotte Street	234	1,772	114	825
Mervue Street	370	3,170	277	1,524
Woodstock Road	459	5,157	246	1,203
Hillview Street	482	4,265	469	1,408
Gilford Street	516	6,741	515	2,023
Ligoniel	193	1,282	146	558
	<hr/> 6,563	<hr/> 66,262	<hr/> 4,887	<hr/> 17,722

In 1932 the total number on the rolls was 6,483 and the total number of attendances 60,433. 4,791 babies were medically examined, the total number of such examinations being 15,649.

The total cost to the Department of Dried Milk, etc., distributed at the several Child Welfare Centres during the year was £3,043 compared with £2,651 during the preceding year. The Dried Milk is given to necessitous cases only, at either cost price, under cost price, or free, according to the circumstances of the recipient.

During the year 1933, 971 recipients were supplied with 85,004 pints of sweet milk free. The figures for 1932 were 949 recipients and 112,833 pints of milk.

TABLE No. X.

Shewing the Deaths of children under one year old per 1,000 births each year
from 1881-1933.

Year.	Deaths per 1,000 Births.	Year.	Deaths per 1,000 Births.
1881	136	1907	136
1882	151	1908	147
1883	162	1909	139
1884	126	1910	143
1885	170	1911	128
1886	135	1912	129
1887	163	1913	144
1888	145	1914	143
1889	163	1915	137
1890	162	1916	113
1891	149	1917	130
1892	173	1918	144
1893	160	1919	113
1894	160	1920	132
1895	169	1921	115
1896	148	1922	94
1897	166	1923	101
1898	164	1924	107
1899	161	1925	104
1900	152	1926	112
1901	154	1927	101
1902	151	1928	103
1903	134	1929	112
1904	154	1930	78
1905	136	1931	90
1906	144	1932	111
		1933	102

Summary of Visits.

Cases investigated	7,201
„ visited a second time	6,739
„ „ third time	5,803
„ „ fourth time	4,893
„ „ fifth time	3,991
„ „ sixth time	3,216
„ „ seventh time	2,587
„ „ eighth time	1,972
„ „ ninth time	1,568
„ „ tenth time	1,126
„ „ eleventh time	821
„ „ twelfth time	635
„ „ thirteenth time	466
„ „ fourteenth time	334
„ „ fifteenth time	246
„ „ sixteenth time	173
„ „ seventeenth time	121
„ „ eighteenth time	90
„ „ nineteenth time	62
„ „ twentieth time	47
„ „ twenty-first time	34
„ „ twenty-second time	23
„ „ twenty-third time	22
„ „ twenty-fourth time	19
„ „ twenty-fifth time	15
„ „ over twenty-five times	7
	<hr/> 42,211
Number of visits re Infant Mortality	625
„ visits to Child Welfare Centres	1,805
„ visits to sick babies	684
„ visits re Infectious Disease	3,716
„ visits re other diseases	185
„ visits to cases discharged from Hospital after Scarlet Fever	957
„ visits to expectant mothers	735
„ miscellaneous visits	1,168
„ visits to mothers	55,466
„ visits to children over 1 year	70,246
„ visits re Ophthalmia Neonatorum and Inflamed Eyes	510
„ unsuccessful visits	6,311
„ Nursed out babies	1,818

LEGISLATION IN FORCE.

Public Health (Ireland) Acts, 1878 to 1907.

Housing of Working Classes Acts.

BELFAST CORPORATION LOCAL ACTS.

8 / 9 Vic., Cap.	cxlii (1845).
9 / 10 Vic., Cap.	ccxciv (1846).
10 / 11 Vic., Cap.	ccliv (1847).
13 / 14 Vic., Cap.	cviii (1850).
16 / 17 Vic., Cap.	cxiv (1853).
27 / 28 Vic., Cap.	cxcviii (1864).
28 / 29 Vic., Cap.	clxxxiii (1865).
29 / 30 Vic., Cap.	cxiii (1866).
31 / 32 Vic., Cap.	cxvii (1868).
36 / 37 Vic., Cap.	ccxcix (1873).
37 / 38 Vic., Cap.	ccxxv (1874).
40 / 41 Vic., Cap.	ccxxii (1877).
41 / 42 Vic., Cap.	clxxx (1878).
47 / 48 Vic., Cap.	xciii (1884).
50 Vic., Cap.	xxiii (1887).
50 / 51 Vic., Cap.	ccxxvii (1887).
52 / 53 Vic., Cap.	xlii (1889).
53 / 54 Vic., Cap.	cv (1890).
53 / 54 Vic., Cap.	ccxcii (1890).
54 / 55 Vic., Cap.	lvii (1891).
55 / 56 Vic., Cap.	ccx (1892).
55 / 56 Vic., Cap.	ccxxxix (1892).
59 / 60 Vic., Cap.	ccxlv (1896).
60 / 61 Vic., Cap.	lxxxvi (1897).
61 / 62 Vic., Cap.	xliv (1898).
61 / 62 Vic., Cap.	liii (1898).
62 / 63 Vic., Cap.	ccxlv (1899).
2 Ed. VII., Cap.	cix (1902).
4 Ed. VII., Cap.	ccxxxix (1904).
8 Ed. VII., Cap.	ccxxvi (1908).
10 Ed. VII., & 1 Geo. V Cap.	xlvi (1910).
1 & 2 Geo. V., Cap.	cx (1911).
2 & 3 Geo. V. Cap.	ix (1912).
3 & 4 Geo. V., Cap.	c (1913).
4 & 5 Geo. V., Cap.	xxxviii (1914).
13 & 14 Geo. V., Cap.	v (1923).
14 & 15 Geo. V., Cap.	iv (1924).
15 & 16 Geo. V., Cap.	iii (1925).
20 & 21 Geo. V., Cap.	ii (1930).

Port Sanitary Authority Local Government Board (Ireland) Provisional Orders Confirmation
(No. 4) Act, 1900 ; 63 & 64 Vic., Cap. ccv.

The Belfast Holywood and Castlereagh Joint Board, L.G.B. (Ireland) Provisional Orders
Confirmation (No. 2) Act, 1905, 5 Edw. VII., Cap. ccxiii.

PUBLIC ACTS ADOPTED BY THE COUNCIL.

ACT.	DATE OF ADOPTION.
Baths and Washhouses Act, 1846	1st February, 1854.
Public Libraries (Ireland) Act, 1855	1st December, 1882 (By Plebiscite).
Public Health Acts Amendment Act, 1890 (Part III.)	1st January, 1891.
Infectious Disease (Prevention) Act, 1890	5th March, 1891.
Infectious Disease (Notification) Act, 1889.	1st January, 1897
Housing of the Working Classes Act, 1890 (Part 3).	1st November, 1897.
Notification of Births Act, 1907	2nd December, 1907.
Public Health Acts Amendment Act, 1907 (Parts 7, 8 and 9)	By Order of Chief Secretary for Ireland, dated 9th May, 1908.
Public Health Acts Amendments Act, 1890 (Part 4)	{ 1st April, 1908. 1st May, 1908.
Museum and Gymnasiums Act, 1891 (So much as relates to Museums)	1st February, 1909.
Tuberculosis Prevention (Ireland) Act, 1908 (Part 1)	1st September, 1908,
Public Health Acts Amendment Act, 1907 (Parts 2, 3, 4, 5, 6, and 10)	By Order of L.G.B. for Ireland, dated 20th July, 1910.

BYE-LAWS AND REGULATIONS.

NATURE OF BYE-LAWS.	WHEN MADE.	WHEN CONFIRMED AND BY WHOM.
Advertising Vans	2nd May, 1887.	Confirmation Unnecessary.
Advertising Hoardings	4th Oct., 1889.	L.G.B., 19th Oct., 1900.
Aldermen and Councillors Non- Acceptance of Office	June, 1901.	Lord Lieutenant.
Art Gallery, &c.	1st June, 1905.	L.G.B., 14th Sept., 1905.
do.	1st May, 1930.	Ministry of Home Affairs for Nor- thern Ireland, 27th August, 1930.
Abattoir, Butchers working in	1st July, 1909.	L.G.B., 26th Nov., 1909.
Abattoir, Public— Management and Charges	1st Sept., 1913.	L.G.B., 4th Nov., 1913.
do.	3rd April, 1922.	Ministry of Home Affairs for Nor- thern Ireland, 20th May, 1922.
do.	3rd Jan., 1927.	10th March, 1927.
do.	1st April, 1927.	13th May, 1927.
do.	1st Oct., 1929.	29th Nov., 1929.
Baths and Wash-houses	5th April, 1904.	L.G.B., 16th May, 1904.
Buildings—New	1st Feb., 1890	L.G.B., 30th April, 1890.
Buildings	1st Nov., 1928.	Ministry of Home Affairs for Nor- thern Ireland, 12th Dec., 1928.
Bicycles, etc.	1st Jan., 1898.	L.G.B., 13th Mar., 1898.
Betting in Streets	3rd Feb., 1902.	L. Lieut., 14th Mar., 1902.
Bowling Greens	1st July, 1926.	Ministry of Home Affairs, 23rd August, 1926.
do.	2nd May, 1927.	2nd July, 1927.
Burial Grounds	3rd Jan., 1921.	L.G.B., 17th Jan., 1921.
	Amended 1st Feb., 1927.	
Cattle Drovers	1st July, 1925.	Ministry of Home Affairs for Nor- thern Ireland, 1st Sept., 1925.
Cattle, Passage through Streets	2nd Nov., 1931.	do. 10th Dec., 1931.
Coal, Sale of	1st Aug., 1919.	Board of Trade, 15th Sept., 1919
Children—Prevention of Cruelty to	1st Aug., 1893.	L. Lieut., 6th October, 1893.
Children's Playgrounds	1st Nov., 1923.	Ministry of Home Affairs, 21st Dec., 1923.
Place of Safety, Nazareth House	1st June, 1906.	
Carriage Traffic— At Opera House	1st Jan., 1896.	
At Ulster Hall	1st Dec., 1894.	
Carrick House	16th May, 1902.	L.G.B., 26th July, 1902.

NATURE OF BYE-LAWS.		WHEN MADE.	WHEN CONFIRMED AND BY WHOM.
Conveyances plying for Public Hire—			
Hackney Carriages	.....	2nd Dec., 1867, and subsequent dates.	Chairman, Quarter Sessions., Jan., 1868, and subsequent dates.
do.	.....	1st April, 1898.	Chairman of Quarter Sessions, 14th Oct., 1898.
do.	.....	1st Sept., 1910.	Recorder of Belfast, 4th Nov., 1910.
do.	.....	2nd April, 1918.	Recorder of Belfast, 18th June, 1918.
do.	.....	1st June, 1920.	18th Sept., 1920.
Motor Taxi Cab (Fares)	.....	1st May, 1923.	Chairman of Quarter Sessions, 19th July, 1923.
do.	do.	1st March, 1928.	Ministry of Home Affairs, 16th June, 1928.

NOTE.—Under the provisions of the Motor Vehicles (Traffic and Regulation) Act. (N.I.), 1926, the licensing of mechanically propelled Public Service Vehicles to ply for hire passed to the Minister of Home Affairs.

Dogs, Wearing of Collars by	.....	1st May, 1907.	Confirmation Unnecessary.
Dairies, Cowsheds and Milkshops	.....	1st Sept., 1908.	do.
Drovers of Cattle (see Cattle Drovers).			
Female Domestic Servant's Registries		1st March, 1911.	Chief Secretary for Ireland, 27th April, 1911.
Factory and Workshop	.....	20th June, 1916.	L.G.B., 2nd Aug., 1916.
Hoarding (Advertising)	.....	4th Oct., 1899.	do. 19th Oct., 1900.
House Refuse, Removal of	.....	1st Feb., 1909.	do. 8th April, 1909.
Ice Cream, Manufacture and Sale of		1st Feb., 1927.	Ministry of Home Affairs, 31st March, 1927.
Ice Cream, Premises used for sale of		1st Dec., 1931.	13th Jan., 1932.
Juvenile Street Trading (see Street Trading)			

Lodging Houses—

Other than Common	.....	1st May, 1876.	L.G.B., 7th June, 1876.
Seamen's	.....	March, 1883.	Board of Trade, 17th March, 1883.
Common	.....	2nd Nov., 1903.	L.G.B., 20th Jan., 1904.
Lights on Vehicles	.....	1st Jan., 1901.	do. 18th April, 1901.
Lord Mayor, non-acceptance of Office		June, 1901.	L. Lieutenant, 8th February, 1902.
Locomotives—			
Streets	.....	5th June, 1906.	L.G.B. 19th July, 1906.
Hours	.....	1st May, 1914.	do. 15th June, 1914.
Markets	.....	1st Feb., 1851	Chairman Quarter Sessions, 12th April, 1851.
Grain and Meal Market	.....	1st Sept., 1896.	do. 27th Oct., 1896.
Mortuary	.....	1st Dec., 1895.	
Motor (Taxi) Cabs Plying for Hire (see Conveyances Plying for Hire).			
Meat, Conveyance of	.....	1st May, 1922.	Ministry of Home Affairs, 7th June, 1922.
do.	.....	2nd June, 1930.	19th July, 1930.
Meat, Inspection of	.....	1st Dec., 1913.	13th Feb., 1914.
Motor Car Parking Places	.....	2nd Sept., 1929.	22nd Oct., 1929.
		Additional Order made—	
		3rd March, 1930.	
do.	.....	1st Feb., 1932.	
Offensive Trades	.....	2nd Nov., 1903.	20th Jan., 1904.
do.	.....	2nd Nov., 1914.	11th Dec., 1914.
do.	.....	1st April, 1930.	10th May, 1930.
Omnibuses	.....	1st May, 1931.	26th June, 1931.
Public Parks General	.....	1st Aug., 1923.	27th Sept., 1923.
do.	.....	2nd May, 1927.	2nd July, 1927.
Public Parks	.....	1st Nov., 1928.	18th Dec., 1928.

NATURE OF BYE-LAWS.	WHEN MADE.	WHEN CONFIRMED AND BY WHOM.
Parks, Recreation Grounds, Pleasure Grounds, Open Spaces and Children's Playground.	1st March, 1932.	
do.	15th April, 1932.	
Bellevue Gardens and Hazelwood	1st Aug., 1923.	Ministry of Home Affairs (N.I.), 27th Sept., 1923.
do.	2nd May, 1927.	do. 5th Aug., 1927.
Children's Playgrounds	1st Nov., 1923.	Ministry of Home Affairs, 21st Dec., 1923.
Regulation of Vehicular Traffic, Ormeau Park	2nd Oct., 1922.	Ministry of Home Affairs (N.I.), 4th Dec., 1922.
Piggeries	1st May, 1894.	L.G.B., 2nd Aug., 1894.
Pork—See "Meat, Conveyance of."		
Public Libraries, Art Gallery and Museum	1st June, 1905.	do. Aug., 1905.
do.	1st May, 1930.	Ministry of Home Affairs, 27th August, 1930.
Public Sanitary Conveniences	2nd Nov., 1908.	do. 2nd Jan., 1909.
Public Service Vehicles	1st May, 1931.	Ministry of Home Affairs, 26th June, 1931.
Places of Public Resort—Regulations re Ingress to and Egress from	1st Nov., 1909. Amended 3rd Nov., 1913.	Confirmation Unnecessary.
School Attendance	2nd June, 1924.	Ministry of Education, 18th Aug., 1924.
do.	1st October, 1929.	21st Dec., 1929.
School Committee, Scheme regulating the Constitution, Powers, Duties and Procedure	2nd Jan., 1928.	
Spitting	4th Aug., 1903.	L. Lieut., 1st September, 1903.
Street Nuisances	6th Nov., 1903.	L. Lieut., 12th Oct., 1905.
Street Traffic	1st June, 1904. 1st Feb., 1906. 1st Oct., 1917. 3rd Oct., 1927. 3rd Dec., 1928. 3rd Feb., 1930. 1st June, 1931. 1st Sept., 1931. 1st March, 1932.	Confirmation Unnecessary.
Street Trading (Juvenile)	1st Oct., 1925.	Ministry of Home Affairs, 16th December, 1925.
Standing Orders of Council	1st Sept., 1930. Amended 1st May, 1931.	
Sheep Scab	1st April, 1915.	
Sanitary Conveniences (see Public Sanitary Conveniences.)		
Swimming Ponds—		
Regulations for use of	1st April, 1910.	
Tennis Courts	2nd Jan., 1922.	Lord Lieutenant, 9th January, 1922.
Tents, Vans, etc.	1st July, 1919.	
Tramways	2nd Oct., 1905.	Commissioner of Public Works, 2nd December, 1905.
Vehicles, Lights on	1st Jan., 1901.	L.G.B., 18th April, 1901.

PREMISES AND OCCUPATIONS CONTROLLED BY
BYELAWS AND REGULATIONS ADMINISTERED BY PUBLIC
HEALTH DEPARTMENT.

NATURE OF BYELAW	NUMBER OF PREMISES	CHARACTER OF PREMISES
Abattoir— Butchers working in	1	City Abattoir.
Abattoir— Management and Charges	—	do.
Burial Grounds	11 { 3 controlled by Corporation 8 Private Burial Grounds.	<p>The Burial Grounds under the control of the Belfast Corporation are City Cemetery, Dundonald Cemetery and Knock Cemetery.</p> <p>The City Cemetery is situated about $2\frac{1}{2}$ miles from the centre of the City on the West side of Falls Road. It contains about 45 acres and was opened in the year 1869.</p> <p>Dundonald Cemetery is situated in the parish of Dundonald, about 4 miles distant from the centre of the City. It also contains about 45 acres and was opened in the year 1905.</p> <p>Knock Cemetery is situated on the Knock Road.</p> <p>The private burial grounds are:— Friars' Bush Cemetery, Stranmillis Road. Milltown R.C. Cemetery, Falls Road. Malone Burial Ground, Stockman's Lane. Quakers' Burial Ground, Balmoral Avenue. Old Charitable Institution Burial Ground, Clifton Street. Greencastle Burial Ground, Greencastle. Ballymacarret Methodist Church Burial Ground, Newtownards Road. St. Matthew's Church Burial Ground, Shankill Road.</p> <p>All the graveyards are regularly inspected by the officers of the Public Health Department in order to ensure that the requirements of the Public Health Act and Byelaws made thereunder are complied with.</p>
Dairies, Cowsheds & Milkshops (Ireland) Order.	85 Cowsheds. 1,830 Milkshops	

Premises and Occupations Controlled by Byelaws and Regulations
administered by Public Health Department—*Continued.*

NATURE OF BYELAW	NUMBER OF PREMISES	CHARACTER OF PREMISES
Ice Cream— Manufacture and Sale of	900 (approx)	Grocery Shops; Confectionery Shops; Fish and Chip Shops; Kitchen Houses, &c., &c.
Lodging Houses— Common	50	The Common Lodging Houses are old type of houses, situated principally in the centre of the City, with accommodation for lodgers varying from 5 to 319. They consist of:— One—1-storey house; Twelve—2 stories; Three—2 stories and attics; Twelve—3 stories; Fifteen—3 stories and attics; Five—4 stories; One—basement and 2 stories; One—basement and 3 stories.
Other than Common	736	
Meat— Conveyance of	—	—
Inspection of	—	—
Offensive Trades	21	Hide Stores; Gut Scrapers; Bone Boilers; Soap Manufacturers; Fellmongers; Fat Boilers; Fat Extractors; Tanners.
Piggeries	—	—
Sheep Scab	—	—
Tents, Vans, &c.	—	—
Rag Flock Act, 1911, Regulations	No rag flock manu- facturers in Belfast but flock is sold in approximately 20 premises.	Bedding manufacturers and Upholsterers.

FACTORY AND WORKSHOP ACTS.

Summary of inspections and of sanitary improvements carried out in pursuance of the provisions of above Acts.

FATORIES.

- 513 visits were made to factories.
 197 nuisances were discovered.
 55 Statutory notices for sanitary defects were served.
 58 Verbal notices for sanitary defects were given.

SANITARY IMPROVEMENTS.

No. of Factories in which improvements were carried out.	Nature of Improvements.
2	Water closet accommodation provided.
2	Additional water closet accommodation provided.
2	Separate water closet accommodation for females provided.
8	Water closets cleansed.
2	Water closets repaired.
4	Walls of water closet apartment limewashed.
12	Water closets cleansed and apartments painted.
24	Water closets cleansed and apartments limewashed.
24	Intervening ventilated spaces provided between workrooms and water closets.
2	Means of ventilating water closets provided.
1	New basin provided to water closet.
1	Roofs of water closet repaired.
3	Cisterns repaired.
1	Means of carrying off offensive fumes provided.
8	Workrooms cleansed.
2	New drains provided.
2	Drains cleansed and repaired.
1	Floor and Hoist repaired.
4	Wash-hand basins cleansed.
3	Floors repaired.
1	Roofs and spoutings repaired.
2	Spouting repaired.
1	Stairs and Windows cleaned.
1	Windows repaired.
2	Water supply provided.
3	Smoke nuisance abated.
1	Gas Pipes repaired.
6	Gas Fires provided with hoods and flues.
1	Waste Pipe repaired.
4	Trade refuse removed.

WORKSHOPS.

- 2,612 workshops on register on 1st January.
 100 registered during the year.
 72 removed from register during the year.
 1,866 visits made.
 413 nuisances discovered.
 174 statutory notices for sanitary defects were served.
 239 verbal notices for sanitary defects were given.

SANITARY IMPROVEMENTS.

No. of Workshops in which improvements were carried out.	Nature of Improvements.
2	Water closet accommodation provided.
1	New water closet apartment provided.
3	New basins provided to water closets.
108	Water closets cleansed.
14	Water closets repaired.
7	Intervening ventilated spaces provided between workrooms and water closets.
7	Locks and Fastenings provided to water closet doors.
1	Opening into Drain closed.
4	Wash-hand basins cleansed.
2	Waste pipes repaired.
5	Means of ventilation provided.
1	Sink provided.
3	Drains cleansed.
2	New drains provided.
1	New stairs provided.
2	Staircases repaired.
3	Stairs cleansed.
18	Workshops cleansed.
100	Workshops cleansed and limewashed.
2	Water supply provided.
4	Cisterns repaired.
4	Yards limewashed and cleansed.
1	Accumulation of manure removed.
7	Tiles relaid or floors repaired.
2	Smoke nuisance abated.
13	Trade refuse removed.
3	Dustbins provided.
3	Ceilings repaired.
7	Roofs repaired.
6	Roofs and spoutings repaired.
4	Spoutings repaired.
1	Premises closed on sanitary grounds as unfit to be used as a workshop.

WORKPLACES.

- 651 Visits were made to workplaces.
- 71 Nuisances were discovered.
- 41 Statutory notices were served.
- 44 Verbal notices given.

SANITARY IMPROVEMENTS.

No. of Workplaces in
which Sanitary improvements
were carried out.

Nature of Improvements.

5	.....	Water closet accommodation provided.
11	.....	Water closets cleansed.
2	.....	Water closets repaired.
2	.....	Water closets provided with locks and fastenings.
3	.....	Cisterns repaired.
2	.....	Intervening ventilated spaces provided between workplaces and water closets.
3	.....	Wash-hand basins cleansed.
2	.....	Drains cleansed.
3	.....	New drains provided.
1	.....	Water supply provided.
3	.....	Yards cleansed.
21	.....	Workplaces cleansed.
8	.....	Workplaces cleansed and limewashed.
2	.....	Workplaces provided with means of ventilation.
1	.....	Workplace provided with means of heating.
3	.....	Tiles relaid or repaired.
4	.....	Roofs repaired.
1	.....	Walls repaired.
2	.....	Ceilings repaired.
1	.....	Roof and spouting repaired.
4	.....	Stairs cleansed.
3	.....	Accumulations of trade refuse or rubbish removed.
2	.....	Dustbins provided.
1	.....	Nuisance caused by burning rubbish abated.

BAKEHOUSES.

1,181 Visits were made to bakehouses.

468 Nuisances were discovered.

109 Statutory notices were served.

50 Verbal notices.

SANITARY IMPROVEMENTS.

No. of Bakehouses
in which improvements
were carried out.

Nature of Improvements.

1	.....	Water closet accommodation provided.
2	.....	Water closets repaired.
3	.....	Separate water closet accommodation for females provided.
1	.....	New roof provided to water closet.
5	.....	Means of ventilation provided.
2	.....	Opening into drains within bakehouses closed up.
4	.....	Intervening ventilated spaces to water closets provided.
39	.....	Hoods and flues provided to carry off fumes from hot plates and ovens.
3	.....	New waste pipes provided.
1	.....	New drains provided.
1	.....	Drains cleansed.
5	.....	Roofs, walls and ceilings repaired.
9	.....	Tiles relaid or floors repaired.
1	.....	Offensive ashpit removed.
1	.....	Dustbin provided.
4	.....	Closed as unfit to be used as bakehouses.
67	.....	Bakehouses cleansed, limewashed or painted.
3	.....	Accumulation of trade refuse removed.
2	.....	Smoke nuisances abated.
3	.....	Spoutings cleansed and repaired.
2	.....	Walls and stairs repaired.

All bakehouses were limewashed or otherwise cleansed at least twice during the year.

TABLE XII.

HOME WORK.

	OUTWORKERS													
	Lists received from Employers						Notices Served on Occupiers as to keeping or Sending Lists	Prosecutions Failing to send Lists	Inspections of Outworkers' Premises	Outwork in Unwholesome Premises		Outwork in Infected Premises		Visits to Employers Premises
	Sending Twice in the Year		Sending Once in the Year							Instances	Notices Served	Instances	Orders Made	
	Lists	Outworkers Contractors	Workmen	Lists	Outworkers Contractors	Workmen								
Wearing Apparel— Making, Cleansing and Washing	152	....	497	5	....	7	....	....	....	....	....	....	....	....
Household Linen	113	192	2,262	2	19	691	All Occupiers were Notified	....	4,385	136	136	14	13	109
Furniture and Upholstery	4	....	8	....	....	....	....	....	....	....	....	....	....	....
Paper Bags and Boxes	4	....	9	....	....	....	....	....	....	....	....	....	....	....
Total	273	192	2,776	7	19	698		....	4,385	136	136	14	13	109

The names and addresses of all outworkers and contractors who resided outside the city were forwarded to the District Council of the District in which they resided.

546 sanitary defects, nuisances, etc., were discovered and remedied.

All work found on infected premises was disinfected.

SHOPS.

2,953 Visits were made by the Female Sanitary Sub-Officers.

15 Statutory notices were served for sanitary defects and want of cleanliness.

130 Verbal notices were given for sanitary defects and want of cleanliness.

No. of Shops
in which improvements
were carried out

Nature of Improvements.

3	.....	Room adjoining shop ceased to be used as a bedroom.
2	.....	Suitable storage for food provided.
78	.....	Premises cleansed.
8	.....	Stairs cleansed.
4	.....	Water closets cleansed and repaired.
2	.....	Water closets provided with new basins.
4	.....	Cisterns of water closets repaired.
18	.....	Water closets repaired.
5	.....	Roofs of water closets repaired.
2	.....	Drains cleansed.
8	.....	Tiling repaired.
5	.....	Flooring repaired.
7	.....	Spoutings repaired.
2	.....	Waste pipes repaired.
4	.....	Roofs repaired.
6	.....	Walls and ceilings limewashed.
4	.....	Walls repaired.
8	.....	Ceilings repaired.
3	.....	Water taps repaired.
2	.....	Grating provided to gully traps.
3	.....	Dustbins provided.
3	.....	Rubbish removed.
1	.....	New mantle piece provided.
2	.....	New window frames provided.
3	.....	Fowl removed from yards and yards cleansed.
2	.....	Dogs removed from room adjoining shop.

COMMON LODGING HOUSES.

Number on Register at 1st January	51
Registrations effected during the year	2
Removed from Register during the year	3
Number of lodgers for whom there were accommodation	1,431
Number of visits during the year by lodging house Inspector	2,709
Statutory notices served for nuisances	41
Verbal notices given for nuisances	47
Verbal notices for breaches of Bye-laws	175

The accommodation varies from 5 to 319 persons to a house.

On visiting the lodging houses your officer paid special attention to the general condition of the premises, including cleanliness, lighting and ventilation and also to the condition of the bedding. The prevention of overcrowding was strictly enforced and immediate remedial measures taken for the abatement of any nuisance or the repair of any sanitary defect found to exist.

All the houses were limewashed regularly and the bedding cleansed or renewed at intervals.

A number of sanitary defects were discovered for which notices were served on the owners or persons responsible.

SANITARY IMPROVEMENTS.

No. of Lodging Houses in which improvements were carried out.	Nature of Improvements.
15	Drains cleansed.
15	Roofs repaired.
8	Spouting repaired.
2	Cisterns repaired.
16	Water closets repaired.
2	Water pipes repaired.
9	Tiles relaid or flooring repaired.
2	Chimneys repaired.
5	Windows repaired.
2	Waste pipes repaired.
8	Plaster of walls and ceilings repaired
3	New ashbins provided.
4	Trade refuse removed.

RAG FLOCK ACT, 1911.

18 samples of Rag Flock were submitted to the City Analyst for examination during the year all of which were found to be below the standard of cleanliness laid down by the Rag Flock Regulations, 1912. Warning letters were sent to the persons from whom the samples were taken.

SMOKE NUISANCE.

441 observations were made for the detection of black smoke being emitted in such quantities as to be a nuisance.

OFFENSIVE TRADES.

567 visits were made to the premises in which offensive trades were carried on throughout the City, in order to ensure that the Bye-Laws with respect to same were being complied with.

TABLE XIII.
LEGAL PROCEEDINGS.

	Summonses.	Orders.	Fines.		
			£	s.	d.
Under Public Health Acts—					
For abatement of nuisances	444	34	6	10	0
Disobedience of Justices' Orders	3	—		—	
Having unsound meat deposited for the purpose of preparation for sale	3	—	3	0	0
Impeding inspector in the execution of his duties under the Public Health (Ireland) Act, 1878	1	—	5	0	0
Buildings not provided with proper sinks or other necessary appliances for carrying off refuse water	2	—		—	
Using premises as a slaughter house without having previously obtained a license	1	—	1	0	0
Under Dairies, Cowsheds and Milkshops Order	8	—	7	0	0
Under Belfast Corporation Acts	32	—	19	10	0
Under Bye-Laws for the decent and seemly conveyance of meat through the public thoroughfares	1	—	0	10	0
Under Merchandise Marks Act	11	—	5	12	6
Under Bye-Laws prohibiting the sale of meat until after inspection	3	—	1	0	0
Under Bye-Laws for the regulation of piggeries	9	—	4	5	0
Under Planning and Housing Act	1	1		—	
Under Midwives and Nursing Homes Act	1	—	5	0	0
Under Diseases of Animals Acts :—					
Sheep Scab Order	9	—	33	0	0
Sheep Dipping Order	2	—	3	0	0
Under Slaughter of Animals Act	1	—		—	
Under Sale of Food and Drugs Acts	—	—	52	5	0

RAINFALL.

The following Table, kindly supplied by Mr. W. I. Quinn, Secretary to the Belfast City and District Water Commissioners, shows the rainfall in inches during the several months of the year 1933 as recorded at the Water Works at Old Park, compared with the preceding ten years.

TABLE No. XIV.

		1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
January	.....	4.84	5.06	3.16	5.09	3.57	7.63	2.29	4.80	4.49	2.96	2.07
February	.....	6.39	0.85	4.15	4.80	1.75	4.61	4.23	0.90	3.30	.07	2.85
March	.....	2.53	1.36	1.24	1.52	2.65	3.79	0.57	2.03	1.30	1.86	2.43
April	.....	3.28	3.15	3.89	1.93	1.26	1.40	1.28	2.01	2.77	3.27	1.32
May	.....	1.43	5.12	6.23	2.30	1.43	1.65	2.93	2.02	4.33	2.77	2.27
June	.....	0.49	4.32	0.41	1.97	3.91	4.83	3.12	2.35	5.41	1.30	2.80
July	.....	1.60	4.42	3.96	3.74	2.93	2.35	3.51	3.34	2.71	5.02	2.89
August	.....	7.40	5.71	1.70	3.67	3.10	3.82	5.67	6.41	3.40	2.68	2.31
September	.....	4.34	6.93	3.96	2.23	5.42	2.13	0.83	4.51	1.63	3.32	0.83
October	.....	5.80	3.00	3.47	3.85	3.66	7.38	4.33	6.03	2.19	3.44	2.69
November	.....	4.20	4.17	1.86	4.18	4.84	5.61	5.10	5.39	6.11	1.92	1.30
December	.....	5.78	4.83	4.68	1.05	2.91	4.55	7.67	4.24	3.25	5.35	2.01
Total		48.08	48.92	38.71	36.33	37.43	49.75	41.53	44.03	40.89	33.96	25.77

REPORT

of the City Veterinarian on the Work of his Department for the year 1933.

Dear Dr. Thomson,

I beg to submit my report on the work at the Belfast Municipal Abattoir in connection with the Ante-Mortem and Post-Mortem examinations of the animals slaughtered for human food.

Reference is also made to the work carried out under the Sanitary (Veterinary Inspectors) Order, 1909 and to visits made to the Balmoral Boys' School, Musgrave Park; Whiteabbey Sanatorium, Whiteabbey, and the different Butchers' Shops and Curing Establishments in the city.

TABLE 1.

Table showing the number of animals slaughtered and inspected in the Public Abattoir during the year 1933.

1933	Cows	Heifers	Bulls	Bullocks	Calves	Sheep	Lambs	Goats	Pigs
January	2238	82	161	1483	102	8357	3217	114	830
February	1759	75	134	1248	92	6036	1687	117	478
March	1738	63	139	1310	103	5568	1459	156	296
April	1458	49	112	1291	127	5167	2221	118	323
May	1610	70	182	1479	90	5210	5040	132	347
June	1201	80	87	1157	107	4039	6431	125	199
July	1154	85	38	1087	114	3876	6477	52	218
August	1585	142	15	1404	172	4312	5994	61	243
September	1565	80	20	1347	226	4655	5074	84	387
October	2089	123	22	1741	260	6047	5679	117	439
November	2031	129	41	1599	194	5893	3734	136	672
December	1829	99	113	1270	214	5006	3299	99	688
Totals	20257	1077	1074	16416	1801	64166	50312	1311	5120

Compared with 1932: Cattle show an increase during the year of 1,403, Sheep a decrease of 3,311, Pigs a decrease of 2,002 and Goats an increase of 270.

TABLE 2.

Table showing the number of carcasses condemned (from all causes) during the year 1933 as being unsound and unfit for human food.

Species.	1933	1932
Cows	415	485
Heifers	5	7
Bulls	3	4
Bullocks	28	19
Calves	37	46
Sheep and Lambs	139	213
Goats	8	28
Pigs	24	57
Totals	659	859

The percentage of animals condemned at the Public Abattoir (from all causes) during the year 1933 was 40% as compared with 52% for the year 1932.

TABLE 3.

Table showing the different diseased conditions which involved seizure and total destruction of carcasses in the Public Abattoir during the year 1933.

	CATTLE					SHEEP LAMBS	GOATS	PIGS	TOTAL
	Cows	Heifers	Bulls	Bullocks	Calves				
Anaemia	1	.....	.....	.....	.....	4	.....	.....	5
Decomposition .....	.....	.....	.....	.....	.....	12	.....	.....	12
Dropsical	3	.....	.....	1	1	66	1	1	73
Emaciated	19	.....	1	1	1	11	5	.....	38
Enteritis .....	.....	.....	.....	.....	5	.....	.....	.....	5
Fevered	22	1	.....	.....	8	16	1	9	57
Gangrene .....	.....	.....	.....	.....	.....	1	.....	.....	1
Immaturity .....	.....	.....	.....	.....	2	.....	.....	.....	2
Inflammation	1	.....	.....	.....	5	1	.....	.....	7
Injured	7	.....	.....	1	1	7	1	.....	17
Joint Ill .....	.....	.....	.....	.....	5	.....	.....	.....	5
Melanosis .....	.....	.....	.....	.....	1	.....	.....	.....	1
Neoplasms	21	.....	.....	.....	.....	1	.....	.....	22
(Cancer Sarcoma)									
Peritonitis	4	1	.....	1	.....	3	.....	1	10
Pericarditis	2	.....	.....	2	.....	.....	.....	.....	4
Piroplasmosis	4	.....	.....	2	.....	.....	.....	.....	6
Pyæmia	1	.....	.....	.....	1	1	.....	.....	3
Rheumatism	1	.....	.....	.....	.....	.....	.....	.....	1
Septicaemia	7	1	.....	2	3	12	.....	4	29
Septic Mastitis	4	.....	.....	.....	.....	1	.....	1	6
Septic Metritis	7	.....	.....	.....	.....	1	.....	.....	8
Septic Nephritis	1	.....	.....	.....	1	.....	.....	.....	2
Strongylosis .....	.....	.....	.....	.....	.....	2	.....	.....	2
Tuberculosis	310	2	2	18	.....	.....	.....	8	340
White Scour .....	.....	.....	.....	.....	3	.....	.....	.....	1
Total	415	5	3	28	37	139	8	24	659

In addition to the above summary, there were 3 tons, 7 cwts., 3 qrs., 27 lbs. of Beef; 2 cwts., 3 qrs., 10 lbs. of Mutton and 2 cwts., 11 lbs. of Pork seized as being unsound and unfit for human food.

TABLE 4.

Tables showing comparison between Tuberculosis and other diseases as causes of condemnation of carcasses of animals slaughtered at the Public Abattoir during the year 1933.

TUBERCULOSIS.

	Cattle.			Sheep Lambs	Goats	Pigs	Total
	Cows	Other Cattle	Calves				
Total Seizure	310	22	.....	.....	.....	8	340
Partial Seizure	23	5	.....	.....	.....	.....	28
Total and Partial	333	27	.....	.....	.....	8	368

OTHER DISEASED CONDITIONS.

			Cattle		Sheep Lambs	Goats	Pigs	Total
			Cows	Calves				
Total Seizure	.....	.....	105	37	139	8	16	319
Partial Seizure	.....	.....	18	.....	16	.....	4	48
Total and Partial	.....	.....	123	37	155	8	20	367

It will be seen from the above table that Tuberculosis in cattle is a most fruitful source of seizure, accounting for almost 66 per cent. of the seizures, as compared with other diseased conditions.

Some indication of the losses from Tuberculosis borne annually by the meat trade may be obtained from the above figures which represent a cash value of at least £3,000 or roughly £60 per week.

TABLE 5.

Table showing the percentage by age of the animals slaughtered and condemned at the Public Abattoir during 1933 for Tuberculosis :—

[illegible]

TABLE 6.

Table showing the percentage by condition of the animals slaughtered and condemned at the Public Abattoir for Tuberculosis during the year 1933.

SPECIES	BY CONDITION.							
	Good		Fair		Indifferent		Poor	
	Number	Per Cent	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Cows	4	1.29	174	56.12	122	89.35	10	1.22
Heifers .....	.....	.....	2	100.00	.....	.....	.....	.....
Bulls .....	.....	.....	2	100.00	.....	.....	.....	.....
Bullocks	1	5.55	15	83.33	2	11.11	.....	.....
Calves .....	.....	.....	.....	.....	.....	.....	.....	.....
Pigs	8	10	.....	.....	.....	.....	.....	.....

TABLE 7.

Table showing the number of Diseased Organs seized and destroyed as being unsound and unfit for human food during the year 1933 (the figures of the preceeding year are given for comparison).

	1933	1932	Increase.	Decrease.
Beef :—				
Heads	201	186	15	.....
Tongues	201	186	15	.....
Hearts	190	157	33	.....
Lungs	2683	3354	.....	671
Livers	8863	11224	.....	2361
Stomachs	215	209	6	.....
Udders	1762	1983	.....	221
Mesenteries	310	401	.....	90
Omentum	140	198	.....	58
Diaphragm	40	24	16	.....
Kidneys	142	246	.....	104
MUTTON :—				
Hearts	8	1	7	.....
Lungs	153	200	.....	47
Liver	6732	10825	.....	4093
Kidneys	20	8	12	.....
PORK :—				
Heads	89	72	17	.....
Tongues	89	72	17	.....
Hearts	58	49	9	.....
Lungs	68	57	11	.....
Liver	74	93	.....	19
Mesenteries	3	4	.....	1
Kidneys	2	9	.....	7
GOAT :—				
Liver	73	59	14	.....
Kidneys	6	8	.....	2

The above does not include the viscera of animals totally destroyed.

It will be seen from the above table that the total number of Livers seized was 15,742, and in the great majority of cases the cause of seizure was Cirrhoses due to Distomes. From the above it is quite evident that no universal attempt is made to reduce Distom cases by systematic dosing of infected animals, and as a result the amount of valuable food lost is great.

TABLE 8.

Table showing percentage incidence of Generalised Tuberculosis in animals slaughtered at the Public Abattoir during the year 1933.

	1933	1932
Cows	1.53	1.76
Other Cattle .....	.11	.09
Cattle (all classes) .....	.85	.99
Calves .....	.....	.....
Pigs .....	.03	.03

INSPECTION OF MEAT PREPARED OUTSIDE THE CITY BOUNDARY.

According to Section (2) Sale of Meat Bye-Laws, every person bringing meat within the City for sale, shall bring such meat to the Public Abattoir, Stewart St., and there submit same for inspection between the hours of 8 a.m. and 10 a.m. To facilitate the trade a special Depot is provided.

(A) Table Showing Amount Examined.

	Beef	Mutton	Pork	Veal	Goat	Rabbit
Sides	1713	.....	.....	.....	.....	.....
Quarters	30	.....	.....	.....	.....	.....
Cuts	2926	247	3	.....	.....	.....
Carcases .....	.....	3910	75	10	1	16
Heads	853	261	.....	.....	.....	.....
Tongues	871	.....	.....	.....	.....	.....
Hearts	783	3768	.....	.....	.....	.....
Lungs	739	3777	.....	.....	.....	.....
Livers	860	3759	.....	.....	.....	.....
Mesenteries	775	.....	.....	.....	.....	.....
Kidneys	14	.....	.....	.....	.....	.....
Tails	784	.....	.....	.....	.....	.....
Diaphragms	849	.....	.....	.....	.....	.....
Udders	28	.....	.....	.....	.....	.....

(B) Table Showing Amount Seized and Destroyed.

	Beef	Mutton	Pork	Veal	Goat	Rabbit
Sides	10	.....	.....	.....	.....	.....
Quarters .....	.....	.....	.....	.....	.....	.....
Cuts	1	3	.....	.....	.....	.....
Carcases .....	.....	1	8	.....	.....	16
Heads	4	1	.....	.....	.....	.....
Tongues	4	1	.....	.....	.....	.....
Hearts	5	.....	.....	.....	.....	.....
Lungs	30	52	.....	.....	.....	.....
Livers	109	36	.....	.....	.....	.....
Tails	7	.....	.....	.....	.....	.....
Diaphragms	9	.....	.....	.....	.....	.....
Udders	8	.....	.....	.....	.....	.....
Mesenteries	6	.....	.....	.....	.....	.....

INSPECTION OF PORK IN THE PORK MARKET.

TABLE C.

The following table shows the number of carcasses of Pork inspected and results.

Number Examined	Total Seizures	Partial Seizures	Cause of Seizure
49	—	7 Heads and Tongues	Tuberculosis

INSPECTION OF BUTCHERS' SHOPS, PORK STORES and COLD STORES.

During the year the Butchers' Shops, Pork Stores and Cold Stores within the City Boundary were visited regularly by the Food Inspectors. The following were surrendered as being unsound and unfit for human food and Justices' Orders obtained for their destruction :—

Carcases of Pork	.....	.....	32
Beef	.....	.....	13 boxes.
Ham	.....	.....	69 lbs.
Rabbits	.....	.....	85.
Fish	.....	.....	2 tons, 2 cwt.
Fish	.....	.....	133 boxes.
Cheese	.....	.....	4 cwts., 2 qts.

In addition to the above in approximately one hundred cases, small quantities of pickled meat on Butchers' and Provision Merchant's premises were found to be unsound and destroyed by the owner under the supervision of the Inspector.

The close collaboration between the Meat Inspectors at the Abattoir and the Food Inspectors who regularly visit the shops in the city make the system of food inspection—Individual and Detective—so perfect that a person might purchase meat or pork from any Butchers' or Provision Shop in the city and feel certain that it is sound.

HANDLING AND TRANSPORT OF FOOD.

During the year it has been necessary to reprimand Butchers, Carting Contractors and others in regard to the conditions observed by them whilst carrying meat through the city.

In a few cases the meat has been insufficiently covered to afford adequate protection and perhaps oftener the cleanliness of the sheets used for protection purposes was not all that one would desire.

The ideal method would be to deliver all meat, offal, etc., to the shops in closed or covered waggons.

INSPECTION OF COWSHEDS AND DAIRY COWS.

The approximate number of Milch Cows within the city boundary is 1,161 and the total number of cowsheds on the register is 85.

During the year I have made systematic inspections of all milch cows and cowsheds, and as a result of the inspections six cows were reported under the Bovine Tuberculosis Order (1925).

These were dealt with by the Officer carrying out the Order and have been reported in detail in previous reports.

Repeated Bacteriological examinations of milk from cows showing any udder lesion were carried out. In the majority of cases dealt with the lesion was of streptococcic origin. This organism although regarded as non-pathogenic to man renders the milk quite unsuitable for human food owing to the alterations in the appearance and palatability. In every case the owner was ordered not to use the milk from the affected quarter and advised to milk the affected cow last to prevent transmission of the disease to other cows.

In view of the prominence which has been given lately to the question of bovine tuberculosis, particularly with regards to the dangers of human infection, through the agency of milk, I feel no apology is necessary for stressing the fact that the milk supply of Belfast, produced within the city boundary, has been free from Tubercle bacilli in every instance on Biological examination during the year 1933. This may be purely incidental, but be as it may, it is to my mind strong support for the method of inspection adopted; namely repeated clinical examination, plus the constant use of the microscope in the examination of milk samples for T.B. cell groups, and I have every confidence in saying that clinical examination, plus the use of the microscope, is neither a forlorn hope nor a useless expenditure of time, energy and money.

The cowsheds have been carefully inspected, paying attention to lighting, ventilation, drainage and water supply. In every instance under my notice, the cowshed has been limewashed at least twice during the year.

The number of Grade "A" herds is still steadily increasing, but unfortunately the most of our milk supply for the city is produced in rural areas outside our jurisdiction and is not of that standard.

BALMORAL BOYS' SCHOOL, MUSGRAVE PARK.

The herd of cows maintained for the purpose of supplying the school with milk has been inspected at frequent intervals during the year. On the occasion of each visit everything has been found highly satisfactory.

ELECTRICAL STUNNING OF ANIMALS.

This method of stunning has been adapted during the year for all the smaller animals (sheep, goats, pigs and calves) and as a result of my experience I have no hesitation in saying this is the simplest, cheapest, most suitable and least objectionable method of stunning animals known.

All the members of the butchering trade are well pleased with the method, and the slaughter men say they would not go back to the old method of slaughter.

SWINE FEVER.

During the year one case of Swine Fever was detected at the Public Abattoir. This was reported to the Central Authority who confirmed the case and dealt with the matter.

To my colleague Dr. Tinsdale, I am again deeply grateful for the considerable amount of laboratory work which he so kindly undertook in connection with the examination of milk, specimens, etc.

To my staff for their loyal support and manner in which they carried out their onerous duties at all times, I say thanks.

In conclusion, the foregoing summary of the year's work, I again Sir, wish to acknowledge the many kindnesses you have shown me during the year and to thank you for the personal interest you have taken in my department.

Yours faithfully,

ALEX McLEAN,

City Veterinarian.

MILK SUPPLY.

Milkshops—

On Register 1st January	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,695
New Registrations effected during the year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	394
Removed from Register during the year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	259
Number of Visits made during the year	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,188
Number of requests for registration refused	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
* Number of unregistered persons discovered selling milk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	83
Number of new safes provided by vendors for the storage of milk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	209
Verbal notices given	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41

*In the majority of instances where unregistered persons were found selling milk, ignorance of the law was pleaded. If the premises were suitable the offenders had their names placed on the register and if unsuitable they immediately ceased selling milk.

Return shewing the number of Milkshops and the Inspections made in each of the several Dispensary Districts.

Dispensary Districts	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Purveyors	76	196	216	150	104	145	24	32	111	143	174	120	104	15	135	85	1830
Inspections	265	653	461	311	298	255	5	85	398	308	343	229	96	.....	346	135	4188

Cowsheds—

On Register	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	85
Number of Cows	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,161
Number of Inspections made	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	340
All Cowsheds were limewashed at least twice during the year.																		

Return shewing the number of Cowsheds and the number of inspections made in each of the several Dispensary Districts.

Dispensary District	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Cowsheds	2	2	9	1	6	2	21	20	2	7	4	6	1	2	.....	85
Inspections	5	6	28	5	21	8	70	98	11	32	9	41	.....	6	.....	340

SALE OF FOOD AND DRUGS ACTS

Return showing particulars of samples of food, etc. taken for analysis during the year, 1933.

TABLE XV.

Nature of Sample.	Samples taken	Adulterations	Prosecutions	Convictions	Discharged on Payment of Costs	Dismissals	Withdrawn	Fines		
								£	s.	d.
Alc	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aspirin Tablets	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baking Powder	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barley	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Beef Suet	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Beer	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brawn	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Butter	176	3	1	1	.....	.....	.....	5	0	0
Butter (Informal)	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buttermilk	244	17	10	8	1	1	.....	12	10	0
Buttermilk (Informal)	5	3	.....	.....	.....	.....	.....	.....	.....	.....
Bismuth Mixture	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bismuth Tablets	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boracic Acid	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boracic Ointment	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boric	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Brandy	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bread (Informal)	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Camphorated Oil	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cheese	22	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cocoa Malted	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cocoa and Cocoa Mixture	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cod Liver Oil	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coffee	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coffee and Chicory	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coffee and Chicory Essence	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Condensed Milk	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corn Flour	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cream	12	1	.....	.....	.....	.....	.....	.....	.....	.....
Cream of Tartar	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Custard Powder	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Confectionery	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cooking Fat	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dried Fruits (Currants, etc.)	39	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dripping	31	.....	.....	.....	.....	.....	.....	.....	.....	.....
Easons' Syrup	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Egg Substitute	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Epsom Salts	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Essence of Rennet	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fish Cake	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gin	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ginger Wine Essence	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glycerine	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glauber Salts	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grape Fruit (Tinned)	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gravy Powder	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ground Cinnamon	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Icing Cake	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ice Cream	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ice Cream (Informal)	38	3	.....	.....	.....	.....	.....	.....	.....	.....
Iodine Tinct.	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Ammon. Cit. Mixture	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jam	16	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jellied Veal	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lard	14	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lard Substitute	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Malt Ext. with Cod Liver Oil	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Margarine	17	.....	.....	.....	.....	.....	.....	.....	.....	.....
Meal Oat	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medical Prescriptions	39	4	2	2	.....	.....	.....	4	0	0
Mince Steak	6	6	5	5	.....	.....	.....	3	5	0

TABLE XV. (Continued)

Nature of Samples.	Samples taken	Adulterations	Prosecutions	Convictions	Discharged on Payment of Costs	Dismissals	Withdrawn	Fines		
								£	s.	d.
Mineral Waters	5	.....	.....	.....	.....	.....	.....	.....
Mustard	1	.....	.....	.....	.....	.....	.....	.....
Olive Oil	2	.....	.....	.....	.....	.....	.....	.....
Pancake Mixture	1	.....	.....	.....	.....	.....	.....	.....
Parrish's Syrup	8	.....	.....	.....	.....	.....	.....	.....
Peas and Beans (Mixed)	2	.....	.....	.....	.....	.....	.....	.....
Peas	3	.....	.....	.....	.....	.....	.....	.....
Peas (Informal)	1	.....	.....	.....	.....	.....	.....	.....
Pepper	9	.....	.....	.....	.....	.....	.....	.....
Pork (Pressed)	1	.....	.....	.....	.....	.....	.....	.....
Pork Beans & Tomato Sauce	1	.....	.....	.....	.....	.....	.....	.....
Pot Iodine and Iron										
Ammon. Cit. Mixture	1	.....	.....	.....	.....	.....	.....	.....
Preserving Meal (Informal)	1	.....	.....	.....	.....	.....	.....	.....
Quinine Sulph. Tabs.	1	.....	.....	.....	.....	.....	.....	.....
Raisin Wine	1	.....	.....	.....	.....	.....	.....	.....
Rice	3	.....	.....	.....	.....	.....	.....	.....
Rum	1	.....	.....	.....	.....	.....	.....	.....
Sauce and Pickles	9	.....	.....	.....	.....	.....	.....	.....
Sausages and Sausage Meat	31	3	3	3	.....	.....	.....	3	10	0
Seidlitz Powders	2	.....	.....	.....	.....	.....	.....	.....
Self Raising Flour	4	.....	.....	.....	.....	.....	.....	.....
Sugar	4	.....	.....	.....	.....	.....	.....	.....
Sweet Milk	1,495	61	22	14	1	6	1	16	10	0
Sweet Milk (Informal)	5	1	.....	.....	.....	.....	.....	.....
Sweet Milk for extraneous dirt	193	.....	.....	.....	.....	.....	.....	.....
Sweet Spirits of Nitre	2	.....	.....	.....	.....	.....	.....	.....
Tea	19	.....	.....	.....	.....	.....	.....	.....
Tinned Fruit	1	.....	.....	.....	.....	.....	.....	.....
Tinned Soup	1	.....	.....	.....	.....	.....	.....	.....
Vinegar	12	1	1	.....	1	.....	.....	.....
Vinegar (Informal)	2	.....	.....	.....	.....	.....	.....	.....
Whiskey	5	.....	.....	.....	.....	.....	.....	.....
Wine	7	.....	.....	.....	.....	.....	.....	.....
Zinc Ointment	2	.....	.....	.....	.....	.....	.....	.....
Total	2,606	104	44	33	3	7	1	44	15	0

From above table it will be seen that although 104 samples of Food, etc., were found to be adulterated or not up to standard only 44 prosecutions were instituted. This is accounted for as follows :—

In 7 samples of Buttermilk, 2 of Butter, 1 of Boric, 1 of Cream, 2 of Medical Prescriptions, 1 of Mince Steak, 39 of Sweetmilk, the percentage below standard in each case was so small that no proceedings were taken but vendors were cautioned.

In 3 cases of Buttermilk, 3 cases of Ice Cream and 1 of Sweetmilk the samples were informal.

TABLE XVI.

Return showing particulars of samples of sweetmilk taken for analysis during the year.

Month.	Samples taken.	Average percentage.		Highest percentage of Fats with the percentage of solids (not Fats).		Highest percentage of solids (not Fats) with the percentage of Fats.		Lowest percentage of fats with the percentage of solids (not Fats).		Lowest percentage of solids (not Fats) with the percentage of Fats.	
		Fats.	Solids (not Fats).	Fats.	Solids (not Fats).	Fats.	Solids (not Fats).	Fats.	Solids (not Fats).	Fats.	Solids (not Fats).
January	151	3.59	8.90	5.80	9.18	3.90	9.48	2.00	9.00	7.50	2.90
February	153	3.76	8.87	5.70	8.78	4.60	9.42	2.50	8.80	7.72	3.40
March	141	3.60	8.85	5.30	8.78	4.10	9.36	2.40	8.80	8.20	4.30
April	115	3.56	8.77	6.55	8.92	2.92	9.40	2.40	8.92	7.54	2.80
May	134	3.51	8.85	4.90	9.05	4.10	9.76	2.20	8.89	8.22	3.40
June	111	3.41	8.81	5.00	8.94	4.10	9.27	2.60	8.54	7.82	3.00
July	77	3.53	8.66	5.80	9.00	3.10	9.29	2.40	8.50	7.43	2.75
August	129	3.56	8.66	5.00	8.48	3.30	9.06	2.60	8.32	7.42	2.90
September	131	3.77	8.74	9.40	8.34	3.70	9.16	2.80	8.65	7.78	3.30
October	103	3.85	8.73	7.00	9.14	3.70	9.43	2.70	7.60	7.60	2.70
November	142	3.70	8.87	5.10	8.84	3.70	9.46	2.40	8.87	7.84	3.00
December	113	3.71	8.87	5.30	9.03	4.10	9.34	2.20	9.00	7.85	3.50
	*1,500										

*—Including 5 Informal Samples.

Return showing shops, etc., visited during the year 1933 by the Inspectors
under the Sale of Food and Drugs Acts.

Description of Shops, Etc.	No. of Visits.
Butchers' Shops	3,619
Cold Stores	44
Confectionery Shops	1,007
Dairies	50
Fish Shops	457
Fish and Chip Shops	518
Fruit Shops	1,303
Grocery Shops	5,041
Hawkers' Carts, Etc.	951
Ice Cream Shops	1,816
Jam Factories	2
Markets	205
Meat Factories	104
Provision Shops	1246
Railway Stations	92
Restaurants	219
	<hr/> 16,647

SEIZURES.

Beef	13 Boxes and 37 lbs.
Cheese	4 cwts., 2 qrs and 13 lbs.
Fish	2 tons, 2 cwt. and 133 boxes.
Ham	69 lbs.
Pork Carcases	32
Rabbits	85

THE MUNICIPAL ABATTOIR.

TO CHARLES S. THOMSON, Esq., M.D., D.P.H., Etc.,
Medical Superintendent Officer of Health.

Dear Sir,

I have pleasure in submitting my Annual Report for the year 1933.

The Abattoir is situated in Stewart Street, and covers an area of $3\frac{1}{4}$ acres. It is within easy access of the Cattle Market, Oxford Street, and Sale Yards, all of which are in the immediate vicinity, thus it will be seen that the Markets Committee, in their foresight, were fully justified in erecting the establishment in a central position as much time is thereby saved by the Butchers, owing to the fact that an animal for slaughter can be driven from the Markets and Auction Marts to the Abattoir inside five minutes. A special entrance from the Markets under one of the Archways of the East Bridge has also been provided by the Committee and is largely availed of by the Butchers on Mondays and Tuesdays of each week, the former day for transit of sheep and the latter for cattle. This arrangement, from a traffic point of view, is an excellent one, and greatly relieves congestion in the surrounding streets.

The present building is comparatively new, thoroughly up-to-date, and contains all the equipment, electrical and otherwise, necessary to carry on a modern Abattoir.

I append particulars of the Abattoir Buildings, &c., also the present Staff and their duties.

Buildings, &c.

1. THE ADMINISTRATIVE BLOCK contains Resident Foreman's Apartments in second storey, Veterinarian's Office, Laboratory, General Office and Toll Collector's Office, also Meat Inspectors' Rest Room, on Ground Floor, all with complete telephonic communication and necessary equipment.

2. MESS ROOM for use of Butchers prior to commencing their work.

3. LIVE SHEEP LAIRAGE BUILDING capable of accommodating 1,200 Sheep.

4. SHEEP KILLING HALL capable of providing accommodation for the slaughter of from 500 to 700 animals per day.

5. SHEEP HANGING HALL capable of storing upwards of 700 carcasses of Mutton.

6. LIVE PIG LAIRAGE BUILDING capable of accommodating 100 pigs.

7. PIG KILLING AND HANGING HALL fitted up with the most modern appliances (including Special Hot Water Tanks for scalding purposes) with accommodation for 250 carcasses.

8. LIVE CATTLE LAIRAGE (220 ft. long x 48 ft. wide) capable of accommodating 250 Head of Cattle.

9. CATTLE KILLING PENS (20) (each $10\frac{1}{2}$ ft. long x 14 ft. wide).

10. CENTRAL CATTLE DRESSING HALL (220 ft. long x 40 ft. wide).

11. MEAT HANGING HALL (166 ft. long x 48 ft. wide) capable of storing 500 sides of Beef, and fitted up with special overhead Twin Bar Trolleys for removing same.

12. REFRIGERATOR AND CHILL ROOMS capable of storing 150 carcasses of Beef, 300 carcasses of Mutton and 100 carcasses of Pork per day.

- 13. BOILER HOUSE.
- 14. ENGINE HOUSE.
- 15. CONDEMNED MEAT STORE.
- 16. DIGESTER PLANT BUILDING.
- 17. TRIPE DRESSING STORES (2).
- 18. GUT DRESSING STORES (3).
- 19. BUTCHERS' LOCKERS.
- 20. WEIGHING MACHINES (various).

21 ELECTRIC CLOCKS (complete installation).

STAFF (MARKETS COMMITTEE).

1 Manager	1 Charwoman.
	3 Checkers.
1 Resident Foreman.	8 Porters (Cleaning Floors, etc.)
	1 Constable.
1 Toll Clerk.	1 Mechanic.
	1 Weighmaster.
1 General Clerk.	1 Night Watchman.
	1 Fireman.
1 Engineer.	1 Digester Plant Operator.
	1 Asst. Digester Plant Operator.
1 Machineman.	1 Refrigerator Operator.
<hr/>	<hr/>
6	20
Total Staff	..... 26

Humane Killers and Electrolethaler.

All classes of animals are now stunned before slaughter, either by means of the Humane Killer or Electrolethaler. The Humane Killer is used principally for Cattle and the Electrolethaler for Sheep, Pigs, Calves and Goats. There are now 30 Humane Killers in use and continue to give every satisfaction from a humane point of view, no accidents have occurred during the year or unnecessary cruelty inflicted on any animal during slaughter. This may be accounted for by the fact that all Butchers have become expert in its use.

Electrolethaler.

The apparatus known as the Electrolethaler consists of a pair of tongs and a Transformer. The tongs are applied behind the animals ears and simultaneously with the switching on of the electric current the animal loses consciousness and is then bled and from observation it appears to be the most up-to-date, expeditious and humane form of stunning animals yet devised. It is simplicity in itself and easy to operate. The apparatus is used chiefly for Sheep and Pigs and has been found most satisfactory, particularly with regard to Pigs, which under the old method of stunning with Iron Hammer was most objectionable, the squealing of the animals previous to slaughter being continuous. Under the new system this has been entirely eliminated and the killing is now done under more congenial conditions for man and animal.

The Electrolethaler was supplied and installed by Messrs. The General Radiological & Surgical Apparatus Co., Ltd., London at a cost of £270 0 0 and was put in operation for the first time by the Right Hon. the Lord Mayor (Sir Crawford McCullough) in March, 1933.

The Pig Slaughter Hall and part of the Sheep Slaughter Building were fitted up with the apparatus as an experiment and, as the system was so successful, the remaining part of the Building was completed in June following and the entire installation continues to give most satisfactory results.

Live Cattle Lairages.

These Lairages, which provide accommodation for 250 Head of Cattle previous to slaughter, have been kept in first class order during the year. The floors have been kept clean, well lime-washed and disinfected after hosing and the automatic Drinking Troughs, which ensure a constant supply of clean drinking water for the animals, continue to work well. The extensive walls of the Building have been specially treated with disinfectant paint and portion lime-washed, thus making them quite clean and sanitary.

Cold Storage Chambers.

The Cold Storage Chambers were open from May to November and owing to the exceptionally warm Summer and Autumn were largely availed of by the Fleshers of the City.

During the year the following quantities of Meat were placed in Cold Storage for various short periods :—

- 3,625 Sides of Beef.
- 4,326 Carcases of Mutton.
- 732 Carcases of Pork.
- 84 Carcases of Veal.
- 3,229 Miscellaneous Portions of Beef, Mutton, etc.

Pig Singeing Machine.

In order to encourage the slaughter of Pigs in the premises and also to comply with a demand from the various representatives interested in the shipping of Pork cured in the Danish or Wiltshire method, the Markets Committee having had their attention drawn to the Apparatus by the City Veterinarian decided before installing same to obtain first hand information regarding working arrangements, etc. A deputation was appointed and visited Cities in England and Scotland and eventually decided to instal an apparatus, which will be supplied by Messrs. Henius, Ltd., London, at a cost of £275, and the City Surveyor's Department has been authorised to erect a Building adjacent to the Pig Slaughter Hall to house same at an estimated cost of £250. It is anticipated the apparatus will be installed within the next three months.

New Sheep Slaughter and Carcase Hanging Hall.

Owing to congestion in the present Sheep Slaughter Hall, the Markets Committee have decided to erect a palatial extension to the Abattoir on the adjoining ground at present occupied by the Corporation Carpenters' Yard. The Plans have been drawn up, had approval of the Committee and tenders invited for the carrying out of the work.

The New Building is estimated to cost £16,500 and the loan has already received sanction of the Corporation and Ministry of Home Affairs (N.I.) and only awaits clearing of site by City Surveyor's Department in order that the work be proceeded with.

The Building, which will provide accommodation for the slaughter of upwards of 1,000 Sheep per day and hanging space for 1,050 Carcases of Mutton, will relieve the pressure in the present Sheep Hall which at times is quite unable to cope with the rush at peak periods and latterly a portion of the Pig Slaughter Hall, also Cattle Slaughter Hall had to be requisitioned for Sheep slaughtering purposes, but this arrangement is only temporary and liable to withdrawal at any time should space not be available. It is hoped to start erection of the new building early in the coming year and when completed should be capable of providing the necessary accommodation for Sheep Slaughter for many years to come.

Licensed Butchers.

In accordance with requirements of By-Law, there were 120 Licences issued during the year to competent persons, and included 2 under authority of the local Rabbi, in connection with the Jewish ritual form of slaughter.

The following return shows the number of animals slaughtered in the Abattoir during the year ended 31st December, 1933 :—

Cattle	.....	.....	.....	.....	38,824
Calves	.....	.....	.....	.....	1,801
Sheep and Lambs	.....	.....	.....	.....	114,478
Goats	.....	.....	.....	.....	1,311
Pigs	.....	.....	.....	.....	5,120
Total					161,534

I may here mention that before removal all Meat is subject to a close inspection by the Public Health Officials who detain anything of an unsound or diseased nature.

Painting Work.

During the coming year it will be necessary to have Roof and Ironwork of Byres, Roof and Runways of Meat Hanging Hall, also portion of Corridors in Administrative Block, painted. This work was last done in 1924, and was omitted in the painting contract of 1932, as same was then in fair condition. As provision has been made in the coming year's estimate (approximately £400) the painting will be carried out in the slack season in order that persons working in the premises may be put to the least possible inconvenience.

Equipment.

During the year the Machinery, Overhead Equipment, Refrigerating Plant, Electrical Plant and Digester Plant, have been well supervised by the Engineer, also the Electrolethaler Installation. Several small repairs were effected to Motors, Machinery, etc., and the equipment generally has been kept in good running order and is in a satisfactory state.

General Repairs.

The premises are in good repair and the ventilation of Cattle Slaughter and Dressing Halls was improved at a cost of £50. Additional Lockers for use of Butchers were also provided and let at a small rental. A portion of ground adjoining Manure Pit was concreted to enable workmen to utilise more space for offal, &c. The Lighting was improved where necessary by the installation of new Electric Lamps, and repairs carried out to woodwork, Gates, Spoutings, Passages, etc., where necessary.

The Cattle Lairages, Sheep Lairages, Pig Lairages, also the numerous Slaughter Halls throughout the premises have been kept in a thoroughly clean condition, regularly cleansed with a copious supply of water, and, where suitable, disinfectants have been applied to keep the premises in a good sanitary order.

To the Members of the Staff I return my best thanks for the efficient manner in which they carried out their multifarious duties during the year, and to you Sir, I also desire to record my thanks for kind co-operation and practical interest taken in the administration of the establishment.

(Signed),

GEORGE A. KINNING,
Superintendent of Markets,
and Manager of the Abattoir.

Markets and Abattoir Department,
Belfast.

31st January, 1934.

REPORT OF PROCEEDINGS UNDER THE CONTAGIOUS DISEASES ANIMALS ACTS FOR THE YEAR 1933.

The following is a list of the scheduled diseases—Cattle Plague, Foot and Mouth Disease, Pleura-Pneumonia, Rabies, Glanders, Farcy, Epizootic Lymphangitis, Sheep Pox Anthrax, Sheep Scab, Contagious Abortion, and Tuberculosis, this latter on certain defined forms.

FOOT AND MOUTH DISEASE.

No cases were reported during the year under review.

EQUINE DISEASES.

No cases of scheduled disease of Equines were observed or reported in the County Borough during the year.

SHEEP SCAB.

Eleven outbreaks of Sheep Scab were discovered in the Belfast Saleyards and sixteen outbreaks were at the Belfast Export Stockyard.

The usual precautionary measures were adopted in connection therewith and steps of a preventative and curative nature taken.

SWINE FEVER.

No cases of Swine Fever were reported during the year.

BOVINE TUBERCULOSIS.

Eleven outbreaks of Bovine Tuberculosis as defined by the Bovine Tuberculosis (N.I.) Order of 1926 were dealt with. Eight of these were reported by owners of dairy herds in the City, and three were found exposed for sale in the Saleyards.

Of the cases reported by City owners five were found to be "advanced" and three "not advanced" cases of Tuberculosis.

The cases found in the Saleyards, two were classified as "advanced" and one "not advanced" Tuberculosis.

The classification is made as a result of Post-Mortem examination in each case and is in accordance with the directions embodied in the Bovine Tuberculosis (N.I.) Order of 1926.

In addition to the above a number of suspected animals were subjected to critical examination and found to be "not affected" within the meaning of the Order.

These examinations in most cases entailed the microscopical examination of Udder secretions, and in some cases the application of the Tuberculine Test.

Ten samples of milk taken by Officials of the City Council which were subjected to examination and biological investigation by the City Bacteriologist were found to contain tubercle bacilli.

The dairy herds on the Farms at which those milk samples were produced were subjected to critical examination with the result that diseased animals were found and subsequently removed for slaughter under the provisions of the Bovine Tuberculosis (N.I.) Order of 1926.

INSPECTION OF SALEYARDS AND LAIRAGES.

The Saleyards of which there are three, each holding weekly auctions for cattle, sheep and swine, were constantly visited and the stock exposed subjected to general observation.

Cleansing and disinfection of these yards, and lairages of private owners were efficiently carried out.

Railway termini were visited from time to time and found at all times to have been kept in a satisfactory manner.

MOTOR TRANSPORT.

On the 1st April, 1933, Article 4 of the Transit of Animals (Northern Ireland) Order of 1932, dealing with the construction of motor vehicles, came into operation.

Premises have now been opened where all motor vehicles are cleansed and disinfected after loads are discharged at the various Saleyards.

J. EWING JOHNSTON,
M.B.E., M.R.C.V.S.

INFECTIOUS DISEASES.

SCARLET FEVER.

2,154 cases of Scarlet Fever were notified during the year, but on investigation 88 were found not suffering from the disease. In addition to those notified 10 cases notified as Diphtheria were found to be suffering from Scarlet Fever, which made the total number that occurred during the year 2,076; an attack rate of 5.0 per 1,000 of the population.

The number of cases which occurred during the preceding year was 1,262, and the average number notified annually during the ten years 1923-1932 was 1,267.

11 deaths were registered during the year, equivalent to a case mortality rate of 0.53 per cent or a death rate of 0.03 per 1,000 of the population. The number of deaths registered during the preceding year was 10 and the average number registered annually during the 10 years 1923—1932 was 21.

DIPHTHERIA.

625 cases were notified, but on investigation 90 were found not suffering from the disease. In addition to those notified 6 cases notified as Scarlet Fever were found to be suffering from Diphtheria, which made the total number of cases that occurred during the year 541, an attack rate of 1.3 per 1,000 of the population.

The number of cases that occurred during the preceding year was 361, and the average number notified annually during the 10 years 1923—1932 was 479.

47 deaths were registered, equivalent to a case mortality rate of 8.7 per cent., or a death rate of 0.11 per 1,000 of the population. The number of deaths registered during the preceding year was 19, and the average number registered annually during the 10 years 1923—1932 was 25.

The procedure adopted in former years of allowing "contact" children to return to school in 2 days if their throat swabs were found "negative" has been continued. This arrangement has given entire satisfaction. It is claimed that by adopting such a procedure much valuable school time is saved and the early detection of a secondary infected child or a diphtheria "carrier" is more easily accomplished.

TYPHOID FEVER.

10 cases occurred during the year, an attack rate of 0.024 per 1,000 of the population.

The number of cases which occurred during the preceding year was 29, and the average number notified annually during the 10 years 1923—1932 was 86.

2 deaths were registered, equivalent to a case mortality rate of 20.0 per cent., or a death rate of 0.005 per 1,000 of the population.

The number of deaths registered during the preceding year was 1 and the average number registered annually during the 10 years 1923—1932 was 6.

TABLE No. XVII.

Shewing the annual death rate per 1,000 of the population from Typhoid Fever during the 20 years 1914—1933, also the average rate for quinquennial periods.

Year	Rate		Year	Rate	
1914	0.07	0.06	1924	0.007	0.02
1915	0.02		1925	0.04	
1916	0.05		1926	0.01	
1917	0.10		1927	0.02	
1918	0.06		1928	0.03	
1919	0.04	0.04	1929	0.01	0.005
1920	0.08		1930	0.005	
1921	0.04		1931	0.002	
1922	0.02		1932	0.002	
1923	0.01		1933	0.005	

Average annual death rate for twenty years 1914—1933, 0.031.

ERYSIPELAS.

100 cases were notified during the year, an attack rate of 0.2 per 1,000 of the population.

The number of cases that occurred in the preceding year was 126, and the average number notified annually during the 10 years 1923—1932, was 94.

CEREBRO-SPINAL FEVER.

14 cases were notified during the year, one of which was found not suffering from the disease, making the total number of cases that occurred during the year 13 an attack rate of 0.031 per 1,000 of the population.

MEASLES AND WHOOPING COUGH.

Measles and Whooping Cough were made notifiable from 1st December, 1932, under the Public Health (Notification of Measles and Whooping Cough) Northern Ireland Regulations, 1932. During the year 2,761 cases of measles and 578 cases of whooping cough were notified.

The number of deaths caused by measles was 78, equivalent to a death rate of 0.19 per 1,000 of the population. In the preceding year 30 deaths were registered as having been caused by measles and the average number registered annually during the ten years 1923—1932 was 92. 33 deaths were caused by whooping cough, equivalent to a death rate of 0.08 per 1,000 of the population. The number registered during the preceding year was 102, and the average number registered annually during the ten years 1923—1932 was 92.

DIARRHOEA.

165 deaths of children under 2 years of age were registered as having been caused by this disease during the year, equivalent to a death rate of 0.40 per 1,000 of the population.

The number registered during the preceding year was 151, and the average number registered annually during the 10 years 1923—1932, was 172.

PUERPERAL FEVER.

9 cases of this disease were notified. The number of cases notified during the preceding year was 6, and the average number notified annually during the 10 years 1923—1932 was 16.

TABLE XVIII.

Shewing the rate per 1,000 of the population of cases of Infectious Diseases notified, pursuant to the Infectious Disease (Notification) Act, 1889, during the twenty years 1914—1933 ; also the average for the quinquennial periods.

Year	Rate		Year	Rate	
1914	7.5	4.4	1924	5.6	5.3
1915	6.2		1925	5.3	
1916	3.8		1926	4.5	
1917	2.7		1927	4.6	
1918	2.0		1928	6.5	
1919	8.4	5.0	1929	3.6	7.4
1920	6.5		1930	4.7	
1921	3.4		1931	15.3	
1922	3.5		1932	6.4	
1923	3.4		1933	7.0	

EPIDEMIC DISEASES.

558 deaths were caused by epidemic diseases during the year, equivalent to 8.8 per cent. of the total number of deaths registered from all causes, or a death rate of 1.3 per 1,000 of the population. During the preceding year the deaths from epidemic diseases numbered 380, equivalent to 6.6 per cent. of the total deaths, or a death rate of 0.9.

Two, or 0.36 per cent. of the total deaths from epidemic diseases were caused by typhoid fever ; 78 or 13.98 per cent. by measles ; 11 or 1.97 per cent. by scarlet fever ; 33 or 5.91 per cent. by whooping cough ; 47 or 8.42 per cent. by diphtheria ; 165 or 29.57 per cent. by diarrhoea and 222 or 39.78 per cent. by influenza.

The diseases from which the greatest number of deaths were registered were influenza, diarrhoea and measles, the figures being respectively 222, 165 and 78. The comparative figures for the preceding year were 66, 151 and 30.

TABLE XIX.

Shewing the annual death rate per 1,000 of the population from Epidemic Diseases during the twenty years 1914—1933 ; also the average rate for quinquennial periods.

Year	Rate		Year	Rate	
1914	2.7	1.8	1924	1.0	1.1
1915	1.7		1925	1.3	
1916	1.7		1926	1.3	
1917	1.1		1927	0.9	
1918	1.8		1928	1.1	
1919	1.5	1.2	1929	0.9	0.9
1920	1.5		1930	0.5	
1921	1.4		1931	0.7	
1922	0.6		1932	0.9	
1923	1.2		1933	1.3	

TABLE XX.

Shewing the number of deaths registered as having been caused by the principal Epidemic Diseases, also the annual rate of mortality per 10,000 of the population during the thirty-five years 1899-1933.

Year.	POPULATION.	Typhoid Fever		Typhus Fever		Small pox		Scarlet Fever		Simple Contin'd Fever		Diphtheria		Whooping Cough		Measles		Diarrhoea	
		Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000
1899	350,000	263	7.5	1	0.03	.....	.....	24	0.7	10	0.3	61	1.7	215	6.1	146	4.2	285	8.1
1900	359,000	261	7.3	2	0.05	.....	.....	14	0.4	8	0.2	54	1.5	115	3.2	42	1.2	241	6.7
1901	350,862	341	9.7	8	0.2	1	0.03	13	0.4	26	0.7	65	1.9	162	4.6	240	6.8	292	8.3
1902	360,000	169	4.7	3	0.08	1	0.03	15	0.4	12	0.3	66	1.8	208	5.8	349	9.7	204	5.7
1903	360,000	136	3.8	4	0.1	.....	.....	24	0.7	18	0.5	40	1.1	168	4.7	125	3.5	277	7.7
1904	360,000	111	3.1	6	0.2	8	0.2	21	0.6	8	0.2	28	0.8	260	7.2	196	5.4	251	7.0
1905	360,000	128	3.6	1	0.03	1	0.03	35	1.0	6	0.2	32	0.9	24	0.7	227	6.3	295	8.2
1906	366,220	90	2.5	3	0.08	.....	.....	26	0.7	9	0.2	41	1.1	331	9.0	29	0.8	376	10.3
1907	370,163	82	2.2	3	0.08	.....	.....	13	0.3	2	0.05	38	1.0	64	1.7	201	5.4	212	5.7
1908	380,344	57	1.5	10	0.26	.....	.....	4	0.1	2	0.05	33	0.9	137	3.6	186	4.9	260	6.8
1909	386,576	20	0.5	.....	.....	.....	.....	4	0.1	2	0.05	18	0.4	213	5.5	10	0.3	244	6.3
1910	391,167	18	0.5	1	0.03	.....	.....	18	0.5	5	0.1	27	0.7	259	6.6	504	12.9	241	6.2
1911	386,449	15	0.4	2	0.05	.....	.....	37	1.0	.....	.....	32	0.8	67	1.7	20	0.05	290	7.5
1912	391,974	17	0.4	2	0.05	.....	.....	48	1.2	.....	.....	37	0.9	217	5.5	171	4.4	159	4.1
1913	396,000	22	0.6	1	0.03	.....	.....	153	3.9	.....	.....	53	1.3	41	1.0	182	4.6	458	11.6
1914	399,000	26	0.7	11	0.3	.....	.....	168	4.2	.....	.....	31	0.8	205	5.1	205	5.1	457	11.5
1915	403,000	10	0.2	.....	.....	.....	.....	107	2.7	.....	.....	27	0.7	134	3.3	177	4.4	240	6.0
1916	390,000	19	0.5	4	0.1	.....	.....	52	1.3	.....	.....	28	0.7	120	3.1	191	4.9	236	6.1
1917	393,000	39	1.0	6	0.15	.....	.....	11	0.3	.....	.....	22	0.6	57	1.5	98	2.5	180	4.6
1918	393,000	25	0.6	3	0.08	.....	.....	12	0.3	.....	.....	30	0.8	317	8.1	111	2.8	205	5.2
1919	401,000	17	0.4	1	0.02	.....	.....	138	3.4	.....	.....	30	0.7	9	0.2	137	3.4	263	6.6
1920	413,000	34	0.8	9	0.2	.....	.....	94	2.3	.....	.....	45	1.1	84	2.0	132	3.2	223	5.4
1921	420,000	15	0.4	3	0.07	.....	.....	11	0.3	.....	.....	31	0.7	222	5.3	17	0.4	279	6.6
1922	425,000	7	0.2	.....	.....	.....	.....	12	0.3	.....	.....	43	1.0	16	0.4	35	0.8	152	3.6
1923	429,000	4	0.09	.....	.....	.....	.....	26	0.6	.....	.....	24	0.6	182	4.2	126	2.9	154	3.6
1924	434,000	3	0.07	.....	.....	.....	.....	57	1.3	.....	.....	23	0.5	89	2.0	85	1.9	166	3.8
1925	438,000	18	0.41	.....	.....	.....	.....	49	1.1	.....	.....	38	0.9	99	2.3	167	3.8	205	4.6
1926	416,000	6	0.1	.....	.....	.....	.....	12	0.3	.....	.....	44	1.1	46	1.1	135	3.2	287	6.9
1927	416,000	8	0.2	.....	.....	.....	.....	10	0.2	.....	.....	30	0.7	117	2.8	1	0.02	195	4.7
1928	415,151	13	0.3	1	0.02	.....	.....	21	0.5	.....	.....	16	0.4	50	1.2	164	4.1	196	4.7
1929	415,151	4	0.1	.....	.....	.....	.....	8	0.2	.....	.....	19	0.5	138	3.3	77	1.9	144	3.6
1930	415,151	2	0.05	.....	.....	.....	.....	7	0.2	.....	.....	22	0.5	65	1.6	.....	0.1	116	2.8
1931	415,151	1	0.02	.....	.....	.....	.....	13	0.3	.....	.....	13	0.3	32	0.8	133	3.2	100	2.4
1932	415,151	1	0.02	.....	.....	.....	.....	10	0.2	.....	.....	19	0.5	102	2.5	30	0.7	151	3.6
1933	415,151	2	0.05	.....	.....	.....	.....	11	0.3	.....	.....	47	1.1	33	0.8	78	1.9	165	4.0

TABLE XXI.

Showing the number of cases of infectious diseases notified during the ten years 1924-1933,
pursuant to the Infectious Disease (Notification) Act, 1889:

	Typhus Fever	Typhoid Fever	Scarlet Fever	Continued Fever	Diph- theria	Mem- branous Croup	Small Pox	Cerebro- Spinal Meningitis	Polio- myelitis	Puerperal Fever	Erysipe- las	Relapsing Fever	Encephal- itis Lethargica
1924	44	1818	.....	280	6	.....	.....	1	9	42	.....	221
1925	143	1657	3	419	4	.....	5	.....	5	54	.....	10
1926	84	997	.....	599	4	.....	9	3	37	120	.....	17
1927	168	1113	1	484	2	.....	10	4	20	85	.....	8
1928	3	186	1783	1	628	1	.....	7	1	14	84	.....	1
1929	76	721	2	484	1	.....	11	1	23	122	.....	5
1930	32	1132	.....	618	.....	.....	24	9	20	109	.....	2
1931	53	1169	.....	562	.....	.....	20	2	15	110	.....	3
1932	33	1302	..	425	.....	.....	9	.....	6	125	.....	.....
1933	10	2154	.....	625	.....	.....	14	10	9	100	.....	1

TABLE XXII.

Showing by Dispensary Districts the number of cases of Infectious Diseases notified pursuant to the Infectious Disease (Notification) Act, 1889, and the Public Health (Notification of Measles and Whooping Cough) Northern Ireland Regulations, 1932.

DISTRICT.	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Simple Continued Fever.	Puerperal Fever.	Relapsing Fever.	Smallpox.	Diphtheria.	Membrane- ous Croup.	Erysipelas.	Cerebro- Spinal Meningitis.	Polio- mye- litis.	Encephalitis Lethargica.	Measles.	Whooping Cough.	Total.
1. Doek	41	.....	.....	.....	.....	16	.....	4	.....	.....	.....	94	15	170
2. Duncairn	1	200	.....	1	.....	.....	62	.....	17	.....	2	.....	358	58	699
3. Shankill	4	219	.....	1	.....	.....	67	.....	9	1	2	.....	347	28	678
4. Workhouse	2	343	.....	.....	.....	.....	86	.....	11	1	1	.....	352	23	819
5. Millfield	64	.....	.....	.....	.....	25	.....	1	1	.....	.....	82	18	191
6. College	125	.....	.....	.....	.....	53	.....	8	1	1	.....	207	36	431
7. Greencastle	18	.....	.....	.....	.....	2	.....	.....	.....	3	.....	19	2	44
8. Ligoniel	37	.....	.....	.....	.....	15	.....	1	1	.....	.....	30	2	86
9. Falls	138	.....	3	.....	.....	37	.....	4	4	.....	.....	114	46	346
10. Woodvale	130	.....	.....	.....	.....	46	.....	4	.....	.....	.....	245	56	481
11. Ravenhill	257	.....	1	.....	.....	71	.....	16	1	.....	.....	401	106	853
12. Ballynacarrett	1	257	.....	2	.....	.....	69	.....	11	.....	.....	1	196	90	627
13. Ballyhackamore	1	130	.....	1	.....	.....	23	.....	5	.....	.....	.....	82	34	276
14. Ballynaghan
15. Central	1	36	.....	.....	.....	.....	18	.....	4	2	1	.....	120	35	217
16. Pottinger	159	.....	.....	.....	.....	35	.....	5	2	.....	.....	114	29	344
Total	10	2,154	.....	9	.....	.....	625	.....	100	14	10	1	2,761	578	6,262

TABLE XXIII.

Showing by age periods and sexes the number of cases of Infectious Diseases notified, pursuant to the Infectious Disease (Notification) Act, 1889.

DISEASE.	Under 1 Year.		1 Year and under 2 Years		2 Years and under 5 Years		5 Years and under 10 Years		10 Years and under 15 Years		15 Years and under 20 Years		20 Years and under 25 Years		25 Years and under 45 Years		45 Years and under 65 Years		65 Years and upwards.		Age unknown		Total No. Males.	Total No. Females.	Grand Total.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F					
Typhus Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Typhoid Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scarlet Fever	12	12	53	45	256	311	401	520	143	183	26	45	17	25	37	59	3	6	.....	.....	.....	.....	948	1,206	2,154
Simple Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puerperal Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Relapsing Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Smallpox	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diphtheria	3	3	21	14	72	87	115	111	37	62	12	18	6	23	9	23	2	3	.....	.....	.....	.....	279	346	625
Membranous Croup	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erysipelas	.....	.....	.....	.....	.....	.....	2	.....	.....	4	.....	.....	1	3	8	13	11	18	7	2	15	16	44	56	100
Cerebro-Spinal Meningitis	2	4	1	1	1	2	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	6	8	14
Polio-myelitis	1	.....	1	.....	.....	1	2	.....	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	6	10
Encephalitis Lethargica	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Total	18	19	76	60	329	401	518	634	182	252	38	65	27	53	58	103	17	28	7	2	18	18	1,288	1,635	2,923

INFECTIOUS DISEASES.

NOTIFICATIONS.

TABLE XXIV.

Showing the number of Cases notified under the Infectious Disease (Notification) Act, 1889, and the Notification of Measles and Whooping Cough (Northern Ireland) Regulations, 1932, during each of the four quarters of the year.

DISEASE.	Quarter Ended				TOTAL
	1st April, 1933	1st July, 1933	30th Sept. 1933	30th Dec., 1933	
Typhus Fever	.....	.....	.....	.....	.....
Typhoid Fever	..... 1	.....	3	6	10
Scarlet Fever	330	391	494	939	2,154
Simple Fever	.....	.....	.....	.....	.....
Puerperal Fever	3	3	.....	3	9
Relapsing Fever	.....	.....	.....	.....	.....
Smallpox	.....	.....	.....	.....	.....
Diphtheria	130	118	126	251	625
Membranous Croup	.....	.....	.....	.....	.....
Erysipelas	25	20	14	41	100
Cerebro Spinal Meningitis	6	4	2	2	14
Poliomyelitis	1	3	5	1	10
Encephalitis Lethargica	.....	.....	.....	1	1
Measles	1,561	1,084	96	20	2,761
Whooping Cough	247	148	90	93	578
Total	2,304	1,771	830	1,357	6,262

CORRECTED DIAGNOSIS.

88 Scarlet Fever, 90 Diphtheria, 1 Cerebro-Spinal Meningitis, and 1 Encephalitis Lethargica were found not suffering from the diseases notified. Of these 5 cases notified as Scarlet Fever and 1 case notified as Diphtheria, were found to be suffering from Measles. 6 cases notified as Scarlet fever were found to be suffering from Diphtheria; 10 cases notified as Diphtheria were found to be suffering from Scarlet Fever, and 1 case notified as Encephalitis Lethargica was found to be suffering from Acute Anterior Poliomyelitis. The remainder were not suffering from any notifiable infectious disease.

TABLE XXV.

Shewing the number of deaths from Cancer and other Tumours for the year 1933 as compared with the preceding 5 years.

Year.	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	Grand and Total		M	F
Under 1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85					
1933	.....	1	1	1	.....	1	1	7	4	11	19	18	54	58	84	83	75	70	32	16	4	541	249	292	
1928	2	.....	1	1	.....	2	.....	1	4	3	8	16	32	43	67	86	66	63	51	12	6	6	470	194	276
1929	.....	.....	.....	1	.....	1	3	3	1	5	13	15	28	39	73	72	72	48	43	26	13	3	459	195	264
1930	.....	.....	.....	.....	1	1	1	1	6	3	7	19	20	41	64	67	84	78	69	32	5	2	501	229	272
1931	.....	.....	.....	.....	2	1	1	4	1	5	8	22	24	37	60	79	89	76	57	46	11	.....	523	243	280
1932	.....	.....	1	.....	.....	1	1	1	2	3	5	17	35	33	44	73	89	102	71	38	16	1	533	228	305
Totals	2	.....	2	2	3	6	6	10	14	19	41	89	139	193	308	377	400	367	291	154	51	12	2,486	1,089	1,397

It will be seen from the above table that the average number of deaths registered annually as having been caused by Cancer and other Tumours during the quinquennial period 1928 to 1932 was 497.2 (217.8 males and 279.4 females). The deaths notified to this Department by the several Registrars of Births and Deaths for the City do not correspond with the number shown in the returns of the Registrar-General for Northern Ireland, owing to the fact that the deaths of residents of the City which occur outside are not notified to this department, but are allocated by the Registrar-General, in his return, to Belfast, and the deaths of non-residents which occur in the City are allocated by the Registrar-General to the former residence of the deceased.

COUNTY BOROUGH OF BELFAST.

TREATMENT OF VENEREAL DISEASES.

Patients desiring treatment under the scheme may apply and attend at any of the following hospitals, infirmaries or institutions that they may choose for the purpose, viz. :—The Royal Victoria Hospital, the Mater Infirmorum Hospital, and the Belfast Union Hospital ; at which there is available confidential treatment for all classes of the community, free of cost and irrespective of the means or place of residence of the patient including, as regards all these institutions, hospital accommodation for cases that cannot be properly treated at an out-patient department, or dispensary, or other clinic, and as regards the two first mentioned, accommodation for treatment at an out-patient department, in accordance with the following :—

Days and times at which treatment is available—

Royal Victoria Hospital.—Daily from 9 till 11 a.m. (Sundays excepted), and evening clinic on Mondays to Saturdays (inclusive), from 6-15 till 6-45 p.m.

Mater Infirmorum Hospital.—Tuesdays and Saturdays, from 9-30 till 11-30 a.m., and Thursdays, from 8 till 10 p.m.

Union Infirmery.—Daily, from 11 a.m. for admissions (Bed patients only).

VENEREAL DISEASES.

Statement showing the services rendered at the Treatment Centre at Royal Victoria Hospital, Belfast, during the year ended 31st March, 1934, classified according to the areas in which the patients resided.

Name of County or County Borough.	Belfast.	Down.	Antrim.	Armagh.	Derry.	Cavan.	Tyrone.	Port.	Donegal.	Total.
A. Number of Cases from each area dealt with during the year for the first time and found to be suffering from :—										
Syphilis	424	32	19	1	1	.....	....	8	.....	485
Gonorrhoea	379	22	21	.....	1	.....	.....	12	.....	435
Soft Chancres	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Conditions other than Venereal	1,925	3	3	1	.....	.....	.....	3	.....	1,935
Total	2,729	57	43	2	2	.....	.....	23	.....	2,856
B. Total number of attendances of all patients residing in each area	26,772	855	854	109	14	20	9	110	.....	28,743
C. Aggregate number of " Inpatient days " of all patients residing in each area	1,360	74	333	44	.....	.....	.....	.....	4	1,815
D. Number of doses of arseno- benzol compounds given in the : 1. Out-Patient Clinic. 2. In-Patient Dept. to patients residing in each area	8,802	613	632	77	4	32	10	60	.....	10,230
	106	8	14	.....	.....	.....	.....	.....	.....	128

VENEREAL DISEASES.

Return relating to all Persons who were treated at the Treatment Centre at Royal Victoria Hospital, Belfast, during the year ended 31st March, 1934.

	Syphilis.		Gonorrhoea.		Soft Chancre.		Conditions other than Venereal.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1. Number of cases which :— (a) at the beginning of the year under report were under treatment or observation for (b) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centre during the year under report suffering from the same infection	1,172	483	839	22	2				2,013	505
Total—Items 1 (a) and (b)	180	59	109						289	59
2. (a) Number of cases dealt with at the Treatment Centre during the year for the first time	1,352	542	948	22	2				2,302	564
Total—Items 1 (a), 1 (b) & 2 (a)	308	177	427	8	1		1,242	693	1,978	878
2. (b) Number of cases included in Item 2 (a) known to have received previous treatment at other Centres for the same infection	1,660	719	1,375	30	3		1,242	693	4,280	1,442
3. Number of cases which ceased to attend (a) before completing the first course of treatment for (b) after 1 or more courses, but before completion of treatment for (c) after completion of treatment, but before final tests as to cure of	9		8						17	
4. Number of cases transferred to other Treatment Centres after treatment for	128	53							128	53
5. Number of cases discharged after completion of treatment and observation for	43	23							43	23
6. Number of cases which, at the end of the year under report, were under treatment or observation for			128						128	
	3		—						3	
	2		100						102	
	1,484	643	1,147	30	3				2,634	673
Total—Items 3, 4, 5 and 6	1,660	719	1,375	30	3				3,038	749
7. Out-patient attendances :— (a) For individual attention by the Medical Officer (b) For intermediate treatment, e.g., irrigation, dressings, etc.										
	197	4	13,837						14,034	4
8. Aggregate number of "Inpatient days" of treatment given to persons who were suffering from	701	124	982		8				1,691	124

Return relating to all Persons who were treated at the Treatment Centre at Mater Hospital, Belfast, during the year ended 31st March, 1934.

Return relating to all Persons who were treated at the Treatment Centre at Mater Hospital, Belfast, during the year ended 31st March, 1934.

	Syphilis.		Gonorrhoea.		Soft Chancre.		Conditions other than Venereal.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1. Number of cases which,— (a) at the beginning of the year under report were under treatment or observation for (b) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centre during the year under report suffering from the same infection	130	45	140	9	2	.....	32	14	304	68
Total—Items 1 (a) and (b)	164	54	164	9	2	.....	32	14	362	77
2. (a) Number of cases dealt with at the Treatment Centre during the year for the first time	96	39	178	17	17	.....	285	187	576	243
Total—Items 1 (a), 1 (b) and 2 (a)	260	93	342	26	19	.....	317	201	938	320
2. (b) Number of cases included in Item 2 (a) known to have received previous treatment at other Centres for the same infection	31	2	41	.....	.....	.....	.....	.....	72	2
3. Number of cases which ceased to attend (a) before completing the first course of treatment for (b) after 1 or more courses, but before completion of treatment for (c) after completion of treatment, but before final tests as to cure of	32 21 24	10 19 9	61 44 39	7 ..... .....	..... ..... .....	..... ..... .....	..... ..... .....	..... ..... .....	93 65 53	17 19 9
4. Number of cases transferred to other Treatment Centres after treatment for	11	.....	19	.....	.....	.....	.....	.....	30	.....
5. Number of cases discharged after completion of treatment and observation for	46	19	75	10	15	.....	285	187	421	216
6. Number of cases which, at the end of the year under report, were under treatment or observation for	126	36	104	9	4	.....	32	14	266	59
Total—Items 3, 4, 5 and 6	260	93	342	26	19	.....	317	201	938	320
7. Out-patient attendances :— (a) For individual attention by the Medical Officer (b) For intermediate treatment, e.g., irrigation, dressings, etc.	1,339	512	1,604 2,145	67	35 .....	.....	386	295	3,364 2,145	874
8. Aggregate number of "Inpatient days" of treatment given to persons who were suffering from	604	222	32	.....	.....	.....	.....	.....	636	222

DISINFECTING STATION.

The work undertaken at the Disinfecting Station includes :—

The disinfecting of bedding and clothing from houses where cases of Infectious Diseases have occurred.

The personal bathing and the disinfecting of the clothing of persons who have been in contact with Infectious Diseases, and whose business includes the handling of food-stuffs.

The bathing of verminous persons and the cleansing and disinfection of their clothing.

The delivery once per month of a quantity of disinfectants to each non-transferred Public Elementary School in the City.

The disinfection of clothing, etc., intended for export to the Irish Free State, for which service a small charge is made.

The cleansing of Emigrants who have failed to pass the United States Medical Inspector at the port, and the disinfection by steam or otherwise of all their baggage is also undertaken. For this service the various Shipping Companies are charged a fee of £10 for the use of the plant and staff on each occasion, plus a charge of 5/- per person dealt with.

We have also attached to the Disinfecting Station a Store where the various disinfectants are kept, and from where a supply of dilute disinfectants is given out to those poor persons who apply for same.

TABLE XXVII.
DISINFECTANTS
IN STOCK AND RECEIVED DURING THE YEAR 1933.

Disinfectant	Civic	Formalin	Paraffin Oil	Crude Oil	Petroleum Fluid	Izal	Sulphur	Insect Oil	Solution "D"	Liquid Soap	Pine Spray	Carbolic Acid
In Stock Dec. 29th, 1932	Gals. 2	W. Qts. —	Gals. 15	Gals. 17	Gals. 40	Gals. 20	Cakes 65	Gals. 10½	Gals. 4	Gals. 36½	Gals. 38	Gals. 3
Received during the year	600	5	.....	.....	40	20	.....	30	.....	.....	.....	.....
	602	5	15	17	80	40	65	40½	4	36½	38	3

TABLE XXVIII.
DISTRIBUTION OF DISINFECTANTS.

Public Elementary Schools	231	.....	.....	.....	.....	33½	16	7½	.....	12	16½	2
Disinfection of Houses	8	1	6	7	.....	.....	.....	.....	.....	.....	.....	.....
Disinfecting Station	17	.....	.....	.....	39	.....	.....	.....	.....	.....	.....	.....
Drain Testing .....	.....	.....	.....	.....	.....	.....	.....	14	.....	7½	.....	.....
Verminous Houses .....	.....	.....	.....	6	12	.....	.....	.....	.....	.....	.....	.....
Insect Spraying, &c.	4½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Surveyor's Department	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1½	.....
Municipal Laboratory .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Child Welfare Centres .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Free Distribution	244	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
In Stock Dec. 30th, 1933	506½	1	6	13	51	33½	16	21½	.....	19½	18	2
	95½	4	9	4	29	6½	49	18½	4	17	20	1
	602	5	15	17	80	40	65	40½	4	36½	38	3

PURDYSBURN FEVER HOSPITAL.

To the Chairman and Members of the Public Health Committee.
Gentlemen,

I have the honour to present to you the following report on the working of Purdysburn Fever Hospital for the year 1933 (52 weeks ended 30th December, 1933).

3,037 cases were admitted during this period, there remained from the previous year 220, making a total of 3,257 cases under treatment.

2,886 of these were treated to a conclusion, leaving 371 cases in hospital at the end of the year.

The number of admissions in the previous year had been 2,066 and the average number of admissions in the previous five years 2,074.

TABLE I.

Showing the classification of the cases and the mortality in cases treated to a conclusion.

Disease.	Remain- ing on 31-12-32	Admitted during year	Total	Remain- ing on 30-12-33	Nett.	Died.	Mortality % calculated on cases treated on a conclusion
Enteric—Typhoid	1	4	5	.....	5	2	40.00
Enteric—Para A .....	.....	.....	.....	.....	.....	.....	23.08
Enteric Para B .....	.....	8	8	.....	8	1	12.50
Typhus .....	.....	.....	.....	.....	.....	.....	.....
Scarlatina	180	2,149	2,329	280	2,049	12	0.59
Diphtheria	33	560	593	83	510	47	9.22
Diphtheria Carrier .....	.....	1	1	.....	1	.....	0.00
Cerebro-Spinal Fever	1	18	19	.....	19	7	36.84
Pneumonia .....	.....	.....	.....	.....	.....	.....	.....
Tuberculous Meningitis .....	.....	8	8	.....	8	8	100.00
Other Diseases	5	252	257	7	250	20	8.00
Quarantine .....	.....	32	32	1	31	.....	0.00
Epidemic Encephalitis .....	.....	.....	.....	.....	.....	.....	.....
Acute Poliomyelitis .....	.....	5	5	.....	5	1	20.00
Smallpox .....	.....	.....	.....	.....	.....	.....	.....
Totals	220	3,037	3,257	371	2,886	98	3.39
Comparative Numbers							
In 1932.	192	2,066	2,258	220	2,038	57	2.80

ENTERIC FEVER.

12 cases of Enteric were admitted during the year. These included 4 cases of Typhoid and 8 cases of Paratyphoid B.

There were no cases of Paratyphoid A.

One case of Typhoid remained from the previous year, making a total of 5 cases of Typhoid and 8 cases of Paratyphoid B under treatment.

At the end of the year no cases of Enteric remained over.

Thus 5 cases of Typhoid and 8 cases of Paratyphoid B were treated to a conclusion.

Total enterics 13 of whom 3 died ; case mortality 23.08 per cent.

Of the 12 admissions all came from the city.

In the previous year the admissions numbered 35.

The average number of admissions in the previous five years was 33.

TABLE II.

Showing the case mortality in age periods in Typhoid (B. Typhosus).

Ages				Cases.	Died.	Mortality per cent.
Under 5 years	.....	.....		0	0	0.00
5—10	„	.....		0	0	0.00
10—20	„	.....	.....	0	0	0.00
20—30	„	.....	.....	3	2	66.00
Over 30	„	.....	.....	2	0	0.00
Totals				5	2	40.00

TABLE III.

Showing the case mortality in age periods in Paratyphoid B.

Ages.				Cases.	Died.	Mortality per cent.
Under 5 years	.....	.....		0	0	0.00
5—10	„	.....		0	0	0.00
10—20	„	.....		1	0	0.00
20—30	„	.....		2	0	0.00
Over 30	„	.....		5	1	20.00
Totals				8	1	12.50

TABLE IV.

Showing the number of Enteric Fever cases admitted in each month.

January	.....	0	July	.....	0
February	.....	0	August	.....	2
March	.....	1	September	.....	2
April	.....	0	October	.....	6
May	.....	0	November	.....	0
June	.....	0	December	.....	1

DIPHTHERIA

560 cases were admitted during the year, making with the 33 cases remaining from the previous year 593 cases under treatment.

83 cases still remained in hospital at the end of the year.

510 cases were treated to a conclusion, with 47 deaths giving a case mortality of 9.22 per cent.

Of the 47 fatal cases of Diphtheria 10 died within 12 hours of admission to hospital, 5 others within 24 hours, and 9 others within 48 hours.

The average stay in hospital of the cases which recovered was 33 days. .

Of the 510 cases admitted, 481 came from the city and 29 from outside the city boundary.

In the previous year the admissions numbered 354.

The average number of admissions in the previous five years was 497.

TABLE V.
Showing the case mortality in age periods.

Ages.		Cases.	Died.	Mortality per cent.
Under 1 year	.....	8	2	25.00
1—2 years	.....	28	3	10.71
2—5	„	147	20	13.61
5—10	„	188	17	9.04
10—20	„	93	5	5.38
20—30	„	29	0	0.00
Over 30	„	17	0	0.00
Totals	.....	510	47	9.22

LARYNGEAL DIPHTHERIA.

33 cases required operative interference for laryngeal obstruction. All these cases were treated by intubation of the larynx (O'Dwyer).

10 cases died giving a case mortality of 30.00 per cent.

TABLE VI.

Showing results in age periods in cases in which intubation of the larynx was performed.

Ages.		Cases.	Died.	Mortality. per cent.
Under 1 year	.....	2	2	100.00
1—2 years	.....	8	2	25.00
2—3	„	6	3	50.00
3—4	„	3	0	0.00
4—5	„	6	2	33.33
Over 5	„	8	1	12.50
Totals	.....	33	10	30.00

DIPHTHERIA CARRIER.

1 case of Diphtheria Carrier was admitted during the year and was treated to a satisfactory conclusion.

CEREBRO SPINAL FEVER.

18 cases of Cerebro-Spinal Fever were admitted during the year and with 1 case remaining from the previous year made a total of 19 cases under treatment.

No case remained at the end of the year so that 19 cases were treated to a conclusion. Of these 7 died giving a case mortality of 36.84 per cent.

In the previous year the admissions numbered 17.

The average number of admissions in the previous five years was 14.

TABLE VII.
Showing the case mortality in age periods.

Ages.				Cases.	Died.	Mortality per cent.
Under 1 year	.....	.....		7	3	42.86
1—5	„	.....		8	3	37.50
5—10	„	.....		1	1	100.00
10—20	„	.....		0	0	0.00
20—30	„	.....		1	0	0.00
Over 30	„	.....		2	0	0.00
Totals	.....	.....		19	7	36.84

TUBERCULAR MENINGITIS.

8 cases of Tubercular Meningitis were admitted during the year. All of these ended fatally.

ACUTE POLIOMYELITIS.

5 cases of Acute Poliomyelitis were admitted during the year. 1 case ended fatally, giving a mortality of 20.00 per cent. The others were discharged with various degrees of paralysis.

PNEUMONIA.

There were no admissions of Pneumonia during the year.

EPIDEMIC ENCEPHALITIS.

There were no admissions of Epidemic Encephalitis during the year.

TYPHUS.

There were no admissions of Typhus Fever during the year.

SCARLATINA.

2,149 cases were admitted during the year, making, with 180 cases remaining over from the previous year a total of 2,329 cases under treatment.

280 cases still remained in hospital at the end of the year, so that 2,049 cases were treated to a conclusion.

12 of these ended fatally, giving a case mortality of 0.59 per cent.

The average stay in hospital of the cases which recovered was 30 days.

Of the 2,149 admissions, 2,039 came from the city and 110 came from outside the city boundary.

In the previous year the admissions numbered 1,421.

The average number of admissions in the previous five years was 1,257.

TABLE VIII.
Showing the case mortality in age periods.

Ages.		Cases.	Died.	Mortality per cent.
Under 1 year	.....	13	0	0.00
1—2 years	.....	81	2	2.47
1—5 „	.....	521	8	1.54
5—10 „	.....	928	2	0.22
10—20 „	.....	374	0	0.00
20—30 „	.....	64	0	0.00
Over 30 „	.....	68	0	0.00
Totals	.....	2,049	12	0.59

“ RETURN CASES.”

In 85 instances the return home of a patient from hospital was followed by other cases in the house, giving a return case rate of 4.17 per cent. On the average these 85 cases had reached the 29th day from the onset of the disease when they were discharged.

OTHER DISEASES.

252 cases of “ Other Diseases ” were admitted during the year. These included cases admitted for observation and which did not develop any of the ordinary infectious diseases, and also members of the staff who became ill from causes other than infectious diseases, and who were warded in the isolation Pavilion for the convenience of nursing.

5 cases remained from the previous year, and 7 cases remained at the end of this year, so that 250 cases were treated to a conclusion.

Of these 20 died giving a case mortality of 8.00 per cent.

The causes of these deaths were as follows.

Measles and	}	5	Convulsions	.....	1
Broncho Pneumonia			Gastro Enteritis and Convulsions	.....	1
			Septic Tonsillitis	.....	1
			Streptococcal Meningitis	.....	1
Broncho Pneumonia	.....	4	Carcinoma Ventriculi	.....	1
Pneumococcal Meningitis	.....	3	Cerebral Tumour	.....	1
Meningism and Convulsions	.....	1	Pulmonary Phthisis	.....	1

INFECTIOUS DISEASES AMONGST THE STAFF.

3 Nurses and 1 Laundress developed Scarlatina. All made good recoveries.

The Staff at the end of the year consisted of :—

1 Medical Superintendent.	1 Disinfector.
1 Resident Medical Officer.	1 Foreman Gardener.
1 House Physician	3 Groundsmen.
1 Temporary House Physician.	1 Assistant Marton.
1 Steward.	1 Night Superintendent.
1 Clerk.	1 Night Superintendent (joint).
1 Storekeeper.	1 Housekeeper.
1 Engineer.	9 Ward Sisters.
2 General Mechanics.	34 Nurses.
1 Joiner.	22 Probationer Nurses.
3 Motor Drivers.	1 Seamstress.
1 Van Man.	1 Head Laundress.
4 Firemen.	7 Laundry Maids.
1 Pumping Station Engine Man.	1 Cook.
5 Day Porters.	4 Kitchen Maids.
1 Gate Porter.	4 General Maids.
1 Night Porter.	11 Ward Maids.

Throughout the year the members of the staff have discharged their responsible duties very satisfactorily.

I am,

Gentlemen,

Your obedient servant,

A GARDNER ROBB,

Visiting Physician in Charge.

BELFAST INFIRMARY, FEVER HOSPITAL.
SUMMARY FOR 1933.

	Remaining 30-12-32	Admitted since	Gross Total	Remaining 30-12-33	Nett. Total	DEATHS	% Mortality
* Typhoid .....	.....	1	1	.....	1	.....	.....*
Measles	22	345	367	.....	367	33	8.99
* Scarlatina .....	.....	132	132	7	125	.....	.....*
Whooping Cough	18	63	81	8	73	15	20.54
Mumps	1	34	35	6	29	0	0. 0
Chicken Pox	4	69	73	7	66	1	1.51
Erysipelas	8	86	94	7	87	3	3.45
* Diphtheria .....	.....	70	70	.....	70	1	1.42*
Rubella .....	.....	2	2	.....	2	0	0.0
Pneumonia .....	.....	12	12	.....	12	3	25.00
General Medical	39	220	259	36	223	19	8.50
Tonsilitis	6	267	273	4	269	2	.74
Influenza	2	36	38	.....	38	0	0.0
Epidemic Encephalitis .....	.....	.....	.....	.....	.....	.....	.....
Chronic Encephalitis	25	5	30	18	12	1	8.33
Tubercular Meningitis .....	.....	14	14	.....	14	14	100.00
Cerebro Spinal Fever .....	.....	3	3	.....	3	.....	.....*
Pneumococcal Meningitis .....	.....	1	1	.....	1	1	100.00
Acute Poliomyelitis .....	.....	1	1	.....	1	0	0.0
Quarantine .....	.....	2	2	.....	2	.....	.....
Total	125	1,363	1,488	93	1,395	93	6.66

*The cases of Typhoid, Scarlatina, Diphtheria and Cerebro Spinal Fever were not all treated to a conclusion. Nearly all these were transferred to Purdysburn Fever Hospital.

A. GARDNER ROBB, *Medical Superintendent.*

MUNICIPAL LABORATORY,
QUEEN'S UNIVERSITY,
BELFAST,

16th March, 1934.

Dear Sir,

I beg to present the report of the work carried out in the Laboratory during the year 1933.

The number of specimens submitted for examination was 12,356, an increase of 1,000 on the figures of last year.

The work may be summarised in the following way:—

INFECTIOUS DISEASES.

1. <i>Diphtheria</i> —			
Throat Swabs	.....	.....	3,672
Nasal Swabs	.....	.....	285
Direct Examinations	.....	.....	283
Virulence Tests	.....	.....	25
		.....	4,265
2.— <i>Vincent's Angina</i>			
	.....	.....	222
3.— <i>Enteric Group</i>			
Agglutination Tests	.....	.....	264
Faeces, Blood, Urine, etc.	.....	.....	10
		.....	274
4.— <i>Typhus</i>			
Wilson-Weil-Felix Reaction	.....	.....	3
5.— <i>Meningitis</i> —			
Cerebro-Spinal Fluids	.....	.....	318
West Swabs	.....	.....	2
		.....	320
6.— <i>Tuberculosis</i> —			
Sputa	.....	.....	653
Pus	.....	.....	17
Urine	.....	.....	73
Pleural Fluids	.....	.....	9
C.S. Fluids	.....	.....	99
Faeces, etc.	.....	.....	1
		.....	852
7.— <i>Ringworm</i>			
	.....	.....	10
8.— <i>Plague</i> —			
	.....	.....	304

BR. ABORTUS.

Blood Examinations	.....	.....	88
Milk Examinations	.....	.....	249
		.....	337

VENEREAL DISEASES.

Wasserman Reactions	.....	.....	1,968
Microscopical Examinations	170
		2,138

PATHOLOGICAL EXAMINATIONS.

Tumours, etc.	127
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MILK EXAMINATIONS.

Fresh Milk	965
Pasteurised Milk	149
Grade A T.T. Milk	29
Examinations for T.B.	1,403
		.....	2,546

WATER AND FOODSTUFFS.

Waters	56	
Foods and Ice Creams	109	
		165

VACCINES.

Autogenous	13	
Tuberculins	3	
Stock Vaccines	64	
		80

UNCLASSIFIED EXAMINATIONS.

Urines, etc.		713
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Grand Total	12,356
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In the following tables, a more detailed consideration is given to the above groups.

TABLE I.
Swabs Examined for Diphtheria.

Month	Throat Swabs	Pos.	Neg.	Nasal Swabs	Pos.	Neg.	From Doctors	From Hosps.	School Med. Ser	Contact Pos.	Neg.	Total
January	285	59	226	51	15	36	102	170	64	6	65	336
February	215	18	197	36	7	29	100	117	34	2	42	251
March	190	25	165	39	20	19	106	114	9	0	15	229
April	232	45	187	31	10	21	119	139	5	4	20	263
May	304	41	263	24	8	16	122	195	11	0	13	328
June	181	30	151	13	3	10	92	95	7	1	8	194
July	271	41	230	6	3	3	166	110	1	0	74	277
August	238	51	187	8	4	4	109	131	6	0	4	246
September	348	50	298	19	6	13	176	184	7	0	14	367
October	416	54	362	16	6	10	239	179	14	3	16	432
November	507	66	441	19	2	17	288	232	6	4	15	526
December	485	64	421	23	6	17	303	201	4	0	19	508
Total	3,672	544	3,128	285	90	195	1,922	1,867	168	20	305	3,957

283 Swabs were examined by the direct method for Diphtheria. Of these, 39 were returned positive.

25 Virulence Tests were performed, of which, 21 were positive.

222 Swabs were examined for Vincent's Angina; in 25 of these the causal organisms were present.

TABLE II.
Blood from Suspected Enteric Group Infections.

Month	Positive T A B B AB				Negative T A B B AB				From Doctors	From Hospitals	Total
January	0	0	0	0	2	2	2	2	2	0	2
February	0	0	0	0	5	5	5	5	4	1	5
March	0	0	0	1	10	10	10	9	9	1	10
April	0	0	0	1	7	7	7	6	4	3	7
May	0	0	0	0	10	10	10	10	10	0	10
June	0	0	0	2	6	6	6	4	6	0	6
July	0	0	0	0	5	5	5	4	4	1	5
August	0	0	0	0	12	12	12	12	10	2	12
September	2	0	2	0	9	11	9	11	7	4	11
October	1	0	4	1	10	11	7	10	10	1	11
November	0	0	0	0	9	9	9	9	9	0	9
December	0	0	0	0	1	1	1	1	1	0	1
Total	3	0	6	5	86	89	83	84	76	13	89

Of the 14 positive reactions, 3 were positive to Typhoid, 6 to Paratyphoid B., none to Paratyphoid A., and 5 to Br. Abortus.

Tests were done on 3 samples of Blood for Wilson-Weil-Felix Reaction. All were negative.

TABLE III.

Examination of Sputa for B. Tuberculosis, Etc.

Source	Positive	Negative	Total
Hospitals	3	10	13
General Practitioners	101	539	640
Total	104	549	653

37 Specimens of Sputa were examined for Organisms other than B. Tuberculosis.

TABLE IV.

Examinations of Cerebrospinal Fluids.

Month	B. Tuberculosis		Meningococci		Other Organisms		Protein	Total
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.		
January	0	2	0	2	2	0	0	6
February	0	13	5	8	0	13	2	41
March	0	16	8	8	0	16	0	48
April	0	10	6	4	0	10	1	1
May	1	7	2	6	0	8	2	26
June	1	8	2	7	2	7	4	31
July	1	4	1	4	0	5	3	18
August	1	3	0	4	0	4	1	13
September	0	9	1	8	1	8	2	29
October	1	2	0	3	1	2	3	12
November	1	14	2	13	1	14	1	46
December	1	4	3	2	0	5	2	17
Totals	7	92	30	69	7	92	21	318

Of the 7 Cerebrospinal Fluids which contained other organisms, 5 gave pure cultures of Pneumococci, and the other 2, pure cultures of Streptococcus Haemolyticus.

2 West Swabs were taken from contacts and examined for Meningococci. Both were negative.

RINGWORM.

10 Specimens of Hairs were submitted for examinations; of these 3 were infected with the small spored fungus.

BR. ABORTUS.

88 Specimens of Blood were examined by agglutination for Br. Abortus. Of these 5 were returned positive.

249 Milks were examined for the presence of Br. Abortus, and of these, 16 Specimens contained the organism.

TABLE V.

Examinations carried out under the Venereal Diseases Scheme.

The number of Specimens submitted during the year was 2,138.

Source of Specimens.

	Blood	Smears
Co. Borough of Belfast	1,859	169
Co. Antrim	13	1
Co. Down	10	0
Co. Armagh	3	0
Co. Tyrone	7	0
Co Derry	5	0

The Specimens can be grouped as follows :—

Detection of Treponemata	10
Detection of Gonococci	160
Wasserman Reactions (Blood)	1,897
Wasserman Reactions (C.S.F.)	71
	<hr/> 2,138

WASSERMAN REACTIONS.

Stage of Syphilis indicated by Clinical Report	No. of Tests	Number Positive	Number Negative
Primary	196	51	145
Secondary, Untreated	115	37	78
Secondary, Treated	44	20	24
Tertiary	682	82	600
Latent, Untreated	565	85	480
Latent, Treated	41	13	28
Congenital	197	35	162
Particulars not Stated	57	12	45
	<hr/> 1,897	<hr/> 335	<hr/> 1,562

20 Specimens of Blood were taken from patients referred to the Laboratory by general practitioners.

BACTERIOLOGICAL EXAMINATIONS OF MILK.

During the year, 2,546 examinations were made. 965 of these were specimens of fresh milk, 149 were of pasteurised milk, 29 were of Grade A T.T. milk, and 260 were examined specially for B. Tuberculosis.

TABLE VI.

This table shows the number and classification per month.

Month	Grade A T.T. Milk	Pasteurised Milk	Fresh Milk	Specially Examined for B. Tuberculosis	Total
January	0	10	90	25	125
February	0	13	69	19	101
March	2	14	98	27	141
April	1	14	67	22	104
May	2	18	91	31	142
June	0	18	59	20	97
July	9	11	83	17	120
August	3	12	120	3	138
September	4	8	64	18	94
October	3	15	79	28	125
November	2	10	92	32	136
December	3	6	53	18	80
	—	—	—	—	—
	29	149	965	260	1,403

TABLE VII.

This table shows the source of the specimens of milk.

Month	Street	Milkshop	Railway	Other Sources	Total
January	19	81	0	0	100
February	14	67	0	1	82
March	29	85	0	0	114
April	22	54	4	2	82
May	32	77	0	2	111
June	35	37	0	5	77
July	47	55	0	1	103
August	46	89	0	0	135
September	35	38	1	2	76
October	46	50	0	1	97
November	51	52	0	1	104
December	15	44	0	3	62
	—	—	—	—	—
	391	729	5	18	1,143

TABLE VIII.

This table shows the B. Coli, and the number of Organisms.

No. of Milks	Kind	B. Coli in				No. of milks which showed an Agar Count of over 200,000 in Grade A, & Fresh Milks & over 30,000 in Past. Milk
		1 — 10cc	1 — 100cc.	1 — 1,000cc	1 — 10,000cc	
965	Fresh	771 79.9%	516 53.47%	281 29.12%	104 10.78%	560 58.03%
29	Grade A	16 55.17%	6 20.69%	1 3.45%	0 0%	7 24.14%
149	Past	117 78.52%	77 51.68%	45 30.20%	16 10.74%	132 88.59%

253 milks were examined by the biological method for B. Tuberculosis. Of these, 12 were infected with Live B. Tuberculosis. This gives a percentage of 4.74.

TABLE IX.

MISCELLANEOUS EXAMINATIONS.

Urine Examinations, Microscopical	.....	213
Urine Examinations, Chemical	.....	120
Urine Examinations, Bacteriological	.....	184
Pus	.....	81
Pathological Fluids	.....	15
Faeces	.....	12
Blood Cultures, Films and Counts	.....	51
Sputa, other than T.B.	.....	37
		<hr/>
		713

I am, Sir,

Your obedient servant,

GEO. F. W. TINSDALE,

City Bacteriologist.

To Dr. Thomson, M.S.O.H.,

City Hall, Belfast.

PORT SANITARY AUTHORITY, BELFAST.

The Corporation of Belfast as the Sanitary Authority was permanently constituted the Port Sanitary Authority for the Port of Belfast by the Local Government Board (Ireland) Provisional Orders Confirmation (No. 4) Act, 1900.

The jurisdiction of the Port Sanitary Authority extends to all that part of the said Port of Belfast, which lies on the landward side of a straight line drawn from Blackhead in the Larne Rural District to Orlock Point in the Newtownards Rural District, together with the waters of the said Port of Belfast within such limits ; and all docks, basins, harbours, creeks, rivers, channels, bays and streams within the aforesaid limits, and the place or places which may from time to time be appointed as the Customs Boarding Station or Stations for such part of the said Port, and the place or places for the time being appointed regulations for the mooring or anchoring of ships for such part of the said Port, under any prevention of the spread of diseases issued under the authority of the statutes in that behalf ; and for the purposes of any regulations, as aforesaid, shall also extend to any ship which in pursuance thereof, or of any directions given thereunder, may be moored or anchored at the place appointed thereunder, as aforesaid, or which may be on its way thither.

The expenses of the Port Sanitary Authority are contributed by the Urban and Rural Sanitary Authorities in the following proportions :—

The Corporation of Belfast	.....	.....	92 per cent.
The Carrickfergus Urban District Council	.....	1	„
The Holywood Urban District Council	.....	1	„
The Bangor Borough Council	.....	1	„
The Belfast No. 1 Rural District Council	.....	1½	„
The Belfast No. 2 Rural District Council	.....	1½	„
The Larne Rural District Council	.....	1	„
The Newtownards Rural District Council	.....	1	„

Amount of Shipping entering the Port during the year.

TABLE A.

	Number	Tonnage	Number Inspected		Number reported to be Defective	Number of vessels on which Defects were remedied	Number of vessels reported as having or having had during the voyage Infectious Disease on Board
			By Medical Officer	By Sanitary Inspector			
Foreign:—							
Steamers {	509	685,142	40	509	201	200	8
Motors {							
Sailing	1	2,365	....	1	...	....	...
Fishing ....	...	...	....	...	....	....	....
Total Foreign	510	687,507	40	510	201	200	8
Coastwise:—							
Steamers {	6,353	2,805,039	....	1,174	290	289	1
Motors {							
Sailing ....	....	....	....	....	....	....	....
Fishing ....	....	....	....	....	....	....	....
Non-Trading:							
Steamers	202	130,059	....	....	....	..	....
Sailing ....	....	...	....	....	....	...	..
Total Coastwise	6,555	2,935,098	....	1,174	290	289	1
Total Foreign and Coastwise	7,065	3,622,605	40	1,684	491	489	9

Character of Trade of Port.

TABLE B.

(a) Passenger Traffic during the year.

The total number of passengers landed and embarked at Belfast during the year 1933 was as follows :—

<i>Landed.</i>			<i>Embarked.</i>		
<i>Aliens.</i>	<i>British.</i>	<i>Total.</i>	<i>Aliens.</i>	<i>British.</i>	<i>Total.</i>
1,043	3,705	4,748	773	2,481	3,254

Of the British landed, 222 from Canada and 19 from the United States of America arrived as Deportees.

These figures do not include cross channel services with England and Scotland.

(b) Cargo Traffic.

Principal Imports :—Maize, wheat, timber, flax, ores, paper pulp, hemp, iron, steel, slates, coal, cement, fertilizers, oils, flour, bran, oats, tobacco (leaf), glass, salt, fruit, fresh and dried vegetables, and wines.

Principal Exports :—Machinery, whiskey, ropes, linen yarns, grass-seed, potatoes, tobacco, butter, eggs, poultry, pork, apples, aerated waters, and live cattle.

(c) Ports from which vessels arrive excluding Gt. Britain :—

Abadan 9, Alexandria 3, Arkangel 5, Amsterdam 1, Antwerp 27, Aruba 2, Astonia 1, Ballina 4, Baltimore 6, Baton Rouge 1, Bergen 2, Bona 3, Boston 4, Braila 1, Bremen 2, Buenos Ayres 4, Bunberry 1, Burriana 1, Capetown 3, Carleton 1, Campbeltown, N.B. 3, Casablanca 1, Constanza 2, Clare Castle 1, Copenhagen 1, Curaco 3, Danzig 5, Delfzyl 1, Dublin 22, Dunkirk 1, Freemantle 4, Galway 2, Gdynia 2, Geelong 1, Gifle 1, Ghent 54, Gothenborg 26, Haifa 1, Hango 2, Hamburg 48, Herring Cove 2, Helingsfors 1, Jaffa 3, Kemi 3, Koningsberg 1, Kiel 1, Kotka 6, La Plata 1, Leghorn 10, Leningrad 15, Limerick 3, Lovisa 1, Lebau 1, Lisbon 1, Miramichi 1, Montreal 17, Murmansk 6, New York 3, New Orleans 8, New Westminster 1, Nord Malling 2, Philadelphia 2, Polysund 1, Pomeran 3, Port Lincoln 2, Port Pierre 1, Port Victoria 1, Pugwash 2, Rangoon 1, Revel 3, Riga 16, Remouski 2, Raumo 4, Rotterdam 49, Rouen 4, Rosario 27, Rundick 1, San Nicolas 1, San Pedro 1, Sfax 1, Sligo 2, St. John's 9, Stralsund 1, Sydney 9, Sundsoall 1, Tacoma 1, Thevenach 2, Trangsund 2, Vancouver 2, Valencia 4, Veborg 1, Villa Constitution 2, Walleroo 2, and Williamstown 1.

The Nationality of the vessels which arrived was as follows :—

American 21, British 1,482, Danish 17, Dutch 48, Finish 11, Estonian 1, German 29, Greek 15, Italian 5, Latvaine 5, Norwegian 28, Portuguese 1, Russian 12, Panama 1, Spanish 4, Swedish 6, Yugo Slav 1.

III. Source of Water Supply.

(a) and (b) For the Port and Shipping.

The water supply for the docks and for vessels in the Port is taken from the mains which supply the city and the various districts surrounding Belfast. The water supply is controlled by the Belfast and District Water Commissioners.

The water is subjected to regular chemical and bacteriological examination.

(c) There are no water boats at the Port.

IV. Port Sanitary Regulations (Northern Ireland), 1933.

The regulations are similar to those in operation in Great Britain and became operative on 1st May, 1933.

1. Arrangements for dealing with Declarations of Health :—

Declaration of Health Forms were printed as recommended by the Association of Port Sanitary Authorities of the British Isles. Special instructions relating to the Port of Belfast were printed on the back page, and forms were distributed to H. M. Customs Officers and pilots through the Belfast Harbour Commissioners, and the various Shipping Companies and Agents.

A Declaration of Health signed by the Master and countersigned by the Ship Surgeon (where one is carried) is received from each vessel arriving in the Port, from a foreign port. The Declaration of Health is received by H.M. Customs Officer or the Port Sanitary Officer on the arrival of the vessel, and the answers to the questions contained in the Declaration are scrutinised and supplementary questions are asked. In cases where the Customs Officer first boards the vessel and the Declaration of Health is satisfactory, pratique is granted. If the Declaration of Health is not satisfactory the circumstances are immediately reported to the Port Medical Officer who makes investigations before passengers are allowed to land.

2. Boarding of Vessels.

All vessels from a foreign port are boarded on arrival by an Officer of H.M. Customs, and an Officer of the Port Sanitary Authority. An exception is made in the case of vessels (Trans Atlantic) arriving at the Port and disembarking a small number of passengers by tender; in this case the Customs Officer boards the vessel and receives the Declaration of Health. The Port Sanitary Officer awaits the arrival of the tender at the docks where the passengers are to be disembarked. When a large number of passengers are arriving, it is the custom for an Officer of the Port Sanitary Authority to board the vessel.

3. Notification to the Authority of inward vessels requiring special attention (wireless messages, land signal stations, information from Pilots, Customs Officers, etc.)

Arrangements for the transmission of wireless messages from inward bound vessels requiring special attention under the Regulations have been made with the Shipping Companies and Agents in Belfast. Under these arrangements the Shipping Companies or Agents receive the wireless message required under Article 7, and forward the information to the Port Medical Officer. Alternatively, or in addition, wireless messages are received direct by the Port Sanitary Authority, the telegraphic address "Portelth, Belfast" having been registered for this purpose.

No land signalling system is in operation. Close co-operation exists between the Officers of H.M. Customs and the Port Sanitary Authority, and notification of the arrival of vessels requiring special attention is promptly received from them.

4. Mooring Stations Designated under Article 10.

(a) Within the Docks : (b) Outside the Docks.

(a) With the concurrence of H.M. Customs and the Belfast Harbour Commissioners the ordinary places of mooring, discharge or loading, in relation to inward vessels, arriving from foreign ports, have been designated "mooring stations" within the docks. Vessels at mooring stations remain with gangways off until pratique is granted where such vessels are unhealthy owing to the presence on board of smallpox, typhus fever, dysentery, cerebro-spinal fever, or where any of these four diseases are suspected, or where typhoid fever or chicken-pox are present, or suspected, or where the ship is suspected (See Section 12).

(b) The outside mooring station is situated at Carrick Roads, about three and a half miles from the nearest point of the docks in Belfast Lough, and ships will be detained here which have on board a case of plague, cholera or yellow fever.

5. Particulars of any Standing Exemptions from the Provisions of Article 14.

Standing exemptions from detention under Article 14 are granted (a) in the case of vessels arriving from a port or seaboard included in the list referred to in Article 11, unless such port or seaboard has been specially referred to in the current list or special instructions have been issued in regard to same. (b) in the case of vessels having on board one of the common infectious diseases such as scarlet fever, measles, tuberculosis, mumps, diphtheria, whooping cough, influenza, and malaria. Chickenpox and typhoid fever are not included in this list as the Port Medical Officer will see such, lest the former might be smallpox and the latter typhus fever.

6. Experience of Working of Article 16 :—

Restriction on Boarding or Leaving Vessels.

No difficulty has arisen in the execution of the provisions of this article, and it has not yet become necessary to require passengers to furnish names and destinations, etc., etc., as there has been no case of infectious disease on board vessels arriving at the port calling for this procedure.

7. What, if any Arrangements have been made for :—

(a) Premises and Waiting Rooms for Medical Examination.

Waiting Rooms are provided at the Trans Atlantic Shed, Queen's Quay. This building was erected as a Customs Examination Hall with rooms set apart for the medical examination of inward and outward passengers.

(b) Cleansing and Disinfection.

After the removal of a case or cases of infectious disease, disinfection of the vessel is carried out by the Port Sanitary Officer. Clothing and other articles are removed to the Municipal Disinfecting Station, Laganbank Road, where they are submitted to steam pressure disinfection. The cleansing of persons is carried out at the Disinfecting Station, Laganbank Road.

(c) Temporary Accommodation.

Owing to the removal of the Intercepting Hospital at the West Twin Island, Victoria Channel, no premises for the temporary accommodation of persons for whom such accommodation is required for the purposes of these regulations exist. The Intercepting Hospital was demolished to make a waterway for a new dock. The provision of premises for the purpose of these Regulations is under consideration by the Port Sanitary Authority.

(d) Hospital Accommodation Available for Plague, Cholera, Yellow Fever, Smallpox and Other Infectious Disease.

The Corporation Isolation Hospital at Purdysburn is available for the reception of cases of infectious disease. Separate premises situated in the hospital grounds but self-contained and isolated from the other hospital buildings are available for the reception of cases of smallpox.

(e) Ambulance Transport.

The Port shares the facilities provided for ambulance transport in the City as a whole. For infectious cases the ambulances attached to the fever hospitals are available, whilst for non-infectious cases the ambulances attached to the Corporation Fire Brigade are available.

(f) Supervision of Contacts.

Where contacts of infectious disease are members of the crew, these are kept under supervision by the Port Medical Officer.

In the case of passengers and crew landing, addresses and destinations of contacts are obtained and these are forwarded to the Medical Officer of the District to which they are proceeding. Any disinfection necessary is carried out before their departure.

8. Arrangements for the Bacteriological or Pathological Examination of Rats for Plague.

Bacteriological and Pathological examinations of rats for plague are carried out by the City Bacteriologist at the Municipal Laboratory, Queen's University.

9. Arrangements for other Bacteriological and Pathological Examinations.

All other bacteriological and pathological examinations are carried out at the Municipal Laboratory, Queen's University, by the City Bacteriologist.

10. Arrangements for the diagnosis and treatment of Venereal Disease among Sailors under International Arrangements.

Information is given to the Masters of vessels arriving in the Port as to the arrangements for the diagnosis and treatment of venereal disease among sailors. Pamphlets are left on board which give the situation, and days and hours of V. D. Clinics. These pamphlets give warning of the dangers of the disease and every encouragement is given for attendance at any of the following Clinics:—The Royal Victoria Hospital, the Mater Infirmorum Hospital, and the Belfast Union Infirmary. There is a total of nine morning sessions and two evening sessions for diagnosis and treatment, and seven evening sessions for treatment only. At each of the Clinics beds are available for intern treatment. No charge is made for intern or extern treatment to the patients. Where continuation of treatment at other Ports is necessary, the sailors "grey" book is filled in with the details of treatment, etc., etc. by the Medical Officer in charge of the V. D. Clinic.

11. Arrangements for the Interment of the Dead.

Arrangements for the interment of the dead are made by the Shipping Companies or their Agents.

TABLE C.

Cases of Infectious Sickness landed from vessels.

Disease.	No. of Cases during 1933.		No. of Vessels concerned.	Average Number of Cases for previous 5 years.
	Passengers.	Crew.		
Malaria	1
Influenza	6	5	2
Tuberculosis	2	.....	2	1
Typhoid	1	1	.....
Diphtheria
Scarlet	1	.....	1	.....
Measles	1
Chickenpox	1
Whooping Cough	1
Pneumonia	1

TABLE D.

Cases of Infectious Sickness occurring on vessels during the voyage, but disposed of prior to arrival.

Disease	No. of Cases during 1933		No. of Vessels concerned	Average Number of Cases for previous 5 years.
	Passengers	Crew		
Malaria	1	1	1

No case of plague, cholera, yellow fever, smallpox or typhus fever occurred, and no plague infected rats were discovered during the year.

The Parrots (Prohibition of Import) Regulations, 1930.

During the year notices were served on the Masters of five vessels which arrived at the Port with birds of the parrot species on board, namely :—

S.S. " Duke of Argyll "	3 love birds.
S.S. " Duke of Rothesay "	1 love bird.
S.S. " Duke of Lancaster "	1 parrot.
S.S. " Demetrios. N. Bogiazides "	1 parrot.
S.S. " Forthbridge "	1 parrot.

forbidding the landing of these birds and requiring them to export them within a time specified in the notices. The birds were subsequently exported within the time specified.

Two cockatoos and three pairs of love birds were admitted on permits issued by the Ministry of Home Affairs, N.I., during the year.

V. Measure Against Rodents.

(a) **In Ships in Port.** All vessels arriving from Ports where plague is endemic are boarded by the Port Sanitary Officer as soon as possible after berthing. Enquiries are made as to the prevalence of rats on board, and as to whether any sick or dead rats were found during the voyage. The vessels are then inspected to ascertain probable rat infestation, and are periodically inspected during the time they remain in Port in order to ascertain if any dead rats have been found in the cargo. Traps are set with a view to obtaining rats for bacteriological examination by the City Bacteriologist at the Municipal Laboratory.

(b) On Quays, Wharves and Warehouses.

Instructions are given to the owners, occupiers and employees on the quays, etc., that rats caught or killed should be preserved in air-tight tins for the Port Sanitary Officer, who arranges for them to be sent to the Municipal Laboratory for bacteriological examination.

Measures taken to prevent the passage of rats between ship and shore.

Rat guards are affixed to all moorings of vessels which come from foreign ports, and remain so fixed during their stay in Port. If the rat population is estimated to be abnormal, all gangways and communications are raised at night, and a light placed on the gangway.

Methods of Deratisation of Ships.

Deratisation of ships is carried out by fumigation with Sulphur Dioxide or Hydrocyanic Acid Gas. The fumigations are carried out by private firms under the supervision of the Port Sanitary Officer. When fumigating with sulphur the requisite quantities are placed in the different parts of the vessel, allowing three pounds per thousand cubic feet. Sulphur dioxide gas is generated by burning the sulphur in pans; tinder sticks and wood wool saturated with methylated spirits or paraffin, are used to start combustion. The minimum time of exposure is six hours. No vessel was deratised with Hydrocyanic Acid gas during the year.

Methods of Deratisation of Premises in the Vicinity of the Docks, Quays, etc.

This is carried out by the Shipping Companies, warehousemen, and occupiers of premises in the vicinity of the docks at the request of the Medical Superintendent Officer of Health who is also the Port Medical Officer. Notices are issued, if necessary, under the Rats and Mice Destruction Act, and are served on the occupiers of the premises. Cats are kept in most of the stores and warehouses, and trapping and poisoned baits are also employed. During the year the Belfast Harbour Commissioners had men employed putting down baits in the sheds and on the lands under their jurisdiction with very effective results leading to a very large reduction in the rat population.

Measures Taken for the Detection of Rats in Ships and on Shore.

In ships :—Vessels arriving in Port are inspected by the Port Sanitary Officer who ascertains as to whether they are infested with rats, and if so, to what extent ; this is arrived at by taking into account the number of droppings (whether old or fresh) and by tracing runs on decks and beams, cuttings, soiled woodwork, etc. Another indication of the presence of rats is the peculiar odour given off in confined places which arises when rats have been present for any length of time.

On Shore :—Stores in the vicinity of the docks are inspected regularly for the detection of rats. Droppings, cuttings and damage to the produce are the main indications that rat infestation has taken place. During the year sheds and stores at the docks were very free from infestation.

Rat Proofing.

(a) To what extent are docks, wharves, warehouses, etc. ratproof ?

The docks and wharves on the County Antrim side of the Port are all constructed to be as near ratproof as possible. The floors of the sheds and warehouses and the roadways leading thereto are constructed of concrete or granite setts laid on concrete. The offices in the sheds are constructed so as to allow of the minimum of rat harbourage. On the County Down side the wharves are mostly constructed on piles, and these afford a certain amount of harbourage. These wharves are used principally for the discharge of coal, ores, iron, steel, etc. : such are not so enticing to rats as stores where food is stored.

(b) Action taken to extend ratproofing.

(1) in ships. (2) on shore.

In Ships :—Efforts are directed towards sealing vulnerable places, such as provisions storerooms and pantries where food is kept. This is generally done by encasing with sheet metal, and closing the means of access of rats between one apartment and another, so as to make them as ratproof as possible.

On Shore :—The Officers of the Sanitary Authority see that no accumulations are allowed to collect which would entice rats, and that all premises are kept clean. Where necessary the owners or occupiers are required to take such action as may be necessary to reduce rat harbourage and to prevent access of rats to their premises.

The owners and occupiers of premises are aware of the damage done by rats to merchandise and take every possible means accordingly to keep clear of them as far as practicable.

Number of Rats destroyed during the year.

TABLE E.

(a) On Vessels.

Species.	Jan.	Feb	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Black	53	5	98	12	12	12	....	10	8	4	6	20	240
Brown	....	....	....	....	....	....	....	....	....	....	....	....	....
Species not recorded	....	....	....	....	....	....	....	....	....	....	....	....	....
Examined	48	5	47	11	4	5	....	6	4	4	4	20	158
Infected with Plague	....	....	....	....	....	....	....	....	—	....	....	....	....

TABLE F.

(b) In Docks, Quays, Wharves and Warehouses.

Species.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Black	10	73	15	6	6	8	8	....	10	7	73	6	222
Brown .....	....	....	1	....	....	....	....	....	....	....	....	....	1
Species not recorded .....	....	....	....	....	....	....	....	....	....	....	....	....	....
Examined	8	51	7	2	2	3	8	....	6	7	46	6	146
Infected with Plague .....	....	....	....	....	....	....	....	....	....	....	....	....	....

VI. Hygiene of Crew's Spaces.

TABLE J.

Classification of Nuisances.

Nationality of Vessel.	Number Inspected during 1933.	Defects of Original Construction.	Structural defects through wear and tear	Dirt, Vermin and other conditions prejudicial to health.
British	1,482	6	2	442
Other Nations	202	15	31	142

VII. Food Inspections.

During the year all sheds were inspected regularly for the detection of unsound food. The quantity arriving from foreign sources was very much reduced compared with arrivals in former years.

The quality of the produce which arrived maintained a very good standard.

Seizures.

	c.	qr.	lbs.
65 boxes of fish fillet	5	2	14
45 " " "	4	1	14
20 " " "	1	3	14
20 " " "	1	2	0
11 Chips of Tomatoes	1	2	0
	14	3	14

TABLE XXIX.
SANITARY REPORT FOR THE YEAR.
DISPENSARY DISTRICTS.

	I.	II	III.	IV.	V.	VI	VII.	VIII.	IX.	X.	XI.	XII.	XIII	XV.	XVI.	TOTAL.
Houses Inspected:—																
Systematically	1453	2802	2192	1392	515	1660	...	381	1418	1497	1780	1327	797	1539	808	19561
Re-inspections	2290	5580	4152	2764	2478	3405	95	398	4473	4653	3699	4023	2111	3913	4036	48070
For Specific Purposes	866	2583	3108	1542	1337	1560	246	229	2423	2203	1948	1646	1202	1592	1752	24237
Where Infectious Diseases occurred																
Inspections	72	333	351	441	101	221	19	56	199	210	384	356	202	82	214	3241
Re-inspections	67	367	226	171	68	110	3	55	99	218	163	95	108	28	63	1841
Under the Tuberculosis (Prevention) Act																
Inspections	13	61	72	37	20	38	5	13	43	57	42	36	20	35	27	519
Re-inspections	1	...	...	...	...	...	...	...	.	1	1	...	1	...	...	4
Factory and Workshop Acts:—																
Factories																
Inspections	66	36	27	45	25	56	...	.	21	...	32	17	50	110	28	513
Nuisances	27	13	5	23	20	18	...	...	8	...	9	1	15	42	16	197
Workshops																
Inspections	230	256	217	124	104	132	3	3	40	74	134	137	135	189	88	1866
Nuisances	67	58	22	19	32	29	...	...	11	2	23	42	22	50	36	413
Workplaces																
Inspections	302	55	19	28	35	48	...	—	...	4	2	9	24	105	20	651
Nuisances	29	8	6	4	3	1	...	...	...	...	...	...	9	9	2	71
Outworkers' Premises																
Inspections	1	46	88	1073	76	402	...	...	75	28	918	801	142	169	566	4385
Nuisances		7	10	155	7	62	...	...	12	2	124	74	6	23	64	546
Bakehouses																
Inspections	67	126	162	135	60	98	...	2	38	53	132	107	75	72	54	1181
Nuisances	28	59	71	59	25	42	...	...	11	17	46	41	30	20	19	468

DISPENSARY REPORT (Continued).

DISPENSARY DISTRICTS.																
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XV.	XVI.	TOTAL.
Tipping Grounds:—	46	48	3	40	—	49	45	38	129	114	123	2	87	—	—	724
Inspections	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black Smoke:—	6	11	—	33	21	19	—	7	47	42	126	19	14	43	53	441
Observations made	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Graveyards:—	—	44	—	39	—	45	13	—	20	13	1	9	4	—	—	188
Inspections	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Marine Stores:—	47	76	—	—	30	2	—	—	1	—	—	—	—	40	47	243
Inspections	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3
Nuisances	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Public Urinals:—	708	132	122	195	148	331	47	160	310	125	44	86	7	174	232	2821
Inspections	—	—	—	1	—	1	—	—	—	—	—	—	—	9	—	11
Nuisances	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amusement Halls:—	423	179	47	117	104	9	—	—	—	—	41	33	—	92	87	1132
Inspections	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rivers:—	—	16	—	—	6	—	19	7	27	17	37	7	7	—	3	146
Inspections	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drain Tests:—	—	1	11	2	1	3	—	—	6	—	2	—	3	—	—	29
Requests	—	—	5	1	—	2	—	—	2	—	2	—	3	—	—	15
Defective	—	9	16	1	3	1	1	—	2	1	1	—	—	—	—	35
New Work	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Defective	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid Fever	—	1	2	1	—	—	—	—	—	—	—	1	1	1	—	7
Defective	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	2
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Defective	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total No. of Tests	11	49	66	2	10	9	—	—	2	10	23	9	18	20	15	244
Defective	5	29	36	1	4	4	—	—	2	6	17	5	15	6	13	143
"	11	60	95	6	14	13	2	—	10	11	26	10	23	21	15	317
Defects	5	29	41	2	4	6	—	—	4	6	19	6	20	6	13	161

SANITARY REPORT (Continued)

DISPENSARY DISTRICTS.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XV.	XVI.	TOTAL.
House Drains cleansed	169	370	238	236	166	131	8	11	281	175	186	143	129	232	216	2691
" " repaired	8	45	33	8	31	21	.....	.....	24	13	20	19	19	11	9	261
Length in feet of Pipe Drain laid in providing houses with new drains	12	636	811	124	133	777½	420	.....	141	44	124	190	502	180	12	4106½
Gully and Disconnecting Traps put on house drains	2	29	35	17	5	8	8	.....	.....	1	3	4	8	15	1	136
Houses had the Tiling, Paving, or Flooring repaired	200	534	697	263	301	353	9	48	414	444	509	475	213	406	351	5217
Water Closets erected	.....	.....	18	.....	1	2	.....	1	.....	.....	.....	1	1	4	.....	28
" " repaired	164	332	386	211	192	225	11	38	303	274	330	313	141	349	244	3513
Ashbins provided	109	210	164	155	77	85	16	16	84	110	162	104	145	124	40	1601
Houses provided with New Sinks	2	7	7	1	3	6	.....	.....	1	1	9	2	.....	5	.....	44
Houses provided with New Soil and Ventilation Pipes	1	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	5
Houses have had the Roofs repaired	169	470	608	175	288	296	7	48	406	350	321	350	150	349	249	4236
Houses have had the Spouting repaired	119	366	427	161	188	174	5	46	348	281	288	203	141	235	174	3156
Houses have been cleaned or whitewashed	20	8	19	5	19	4	.....	1	5	4	6	5	2	9	4	111
Houses have had the Yard Walls lime-washed	25	112	1	.....	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	143
Houses (that were overcrowded) had the number of inmates reduced	4	19	4	.....	2	.....	.....	.....	.....	2	1	1	1	5	1	40
Houses closed	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Houses have had minor repairs effected	378	901	1121	481	649	589	9	78	907	711	805	706	331	889	613	9168
Miscellaneous nuisances abated	66	154	170	82	99	62	7	6	72	51	67	55	105	81	37	1114

TABLE XXX.
INQUEST CASES.

Cause of Death.	Under 1 year.		1 and under 5 years.		5 and under 15 years.		15 and under 25 years.		25 and under 45 years.		45 and under 65 years.		65 and upwards.		Total.		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Accidents—Motor	.....	.....	1	3	8	5	4	.....	6	1	4	3	7	3	30	15	45
" Other	.....	.....	.....	2	4	.....	5	.....	10	.....	4	4	3	1	26	8	34
Drowning	1	.....	.....	.....	1	.....	.....	.....	1	.....	2	.....	.....	.....	5	3	8
Gas Poisoning	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	3	1	.....	.....	4	1	5
Gunshot Wounds	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1	.....	.....	.....	5	.....	5
Heart Disease	.....	.....	1	.....	.....	.....	2	.....	2	.....	3	2	.....	.....	8	1	11
Inattention at Birth	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	3
Natural Causes	2	.....	1	2	1	.....	1	.....	5	2	7	1	.....	.....	17	5	22
Overlying	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2
Shock due Burns, Scalds, etc.	.....	.....	20	5	2	5	.....	5	1	3	1	1	1	1	25	20	45
Stillborn	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	3
Suicide	.....	.....	.....	.....	.....	.....	3	1	3	4	8	.....	1	1	15	6	21
Suffocation	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	4
															141	67	208

CITY AND COUNTY BOROUGH OF BELFAST

TUBERCULOSIS DEPARTMENT

THE YEAR'S WORK,

BEING

THE REPORT

OF THE

CHIEF TUBERCULOSIS OFFICER

FOR THE

Year Ended 31st December, 1933

LORD MAYOR :

The Right Honourable SIR CRAWFORD McCULLAGH, D.L., J.P.

MEMBERS OF THE TUBERCULOSIS COMMITTEE (1933).

Councillor W. A. COCHRANE, J.P., Chairman.

Councillor CLARKE SCOTT, Deputy Chairman.

Alderman W. H. ALEXANDER.

Alderman ROBERT PIERCE.

Alderman J. D. WILLIAMSON, M.D., J.P.

Councillor F. G. H. ANDERSON, M.A.

Councillor J. BOYLE.

Councillor Mrs. COLEMAN.

Councillor R. J. GROVES.

Councillor Lt. Com. R. M. HARCOURT.

Councillor JAS. HOLLAND.

Councillor M. HOPKINS, J.P.

Councillor Dr. H. P. LOWE.

Councillor MALCOLM McKIBBIN.

Councillor S. V. TUGHAN.

(Co-opted Members)

Mr. KYLE M. ALEXANDER, F.L.A.A.

Miss E. McCOMB.

Mr. JAMES PARKHILL, J.P.

MEDICAL OFFICERS OF THE DEPARTMENT.**Tuberculosis Institutes.**

Chief Tuberculosis Officer	.....	Dr ANDREW TRIMBLE.
Assistant Medical Officer	.....	Dr. JAMES SHAW.
Assistant Medical Officer	.....	Dr. T. R. V. IRWIN.
Assistant Medical Officer	.....	Dr. HERBERT McMASTER.
Assistant Medical Officer	.....	Dr. E. P. DEWAR.

Municipal Sanatorium, Whiteabbey.

Resident Medical Superintendent	.....	Dr. PERCY WALKER.
Assistant Medical Officer	.....	Dr. D. K. WATTERSON.
Assistant Medical Officer	.....	Dr. A. E. LAVELLE.
Visiting Medical Officer	.....	Dr. JOHN RANKIN.

Municipal Hospital for Tuberculous Children, Graymount.

Visiting Surgeon	Mr. H. P. MALCOLM.
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Chart 1.

SHOWING THE COURSE OF THE DEATH RATE FROM PULMONARY TUBERCULOSIS
IN BELFAST FROM 1897 ONWARD, AND FROM THE NON-PULMONARY FORMS OF
TUBERCULOSIS FROM 1906 ONWARD.



REPORT OF THE CHIEF TUBERCULOSIS OFFICER
ON THE WORK OF
THE TUBERCULOSIS DEPARTMENT.

For the Year ended 31st December, 1933.

Mr. Chairman, Ladies and Gentlemen,

I have pleasure in submitting to you my Annual Report for the year ended 31st December, 1933.

The Department owes a debt of gratitude to the Belfast Council of Social Welfare and to those Social Service Workers who have so unselfishly assisted our work and our patients during the year. Our grateful thanks are also due to the British Legion for much valuable assistance rendered in the relief of distress amongst tuberculous ex-service patients and their families. The Committee of the Coal Relief Fund have rendered a very beneficial service to the necessitous amongst our patients in supplying free coals to a large number of patients referred to them by this Department.

To the Belfast Poor Law Guardians and their efficient and courteous Staff I again wish to tender my sincere thanks for their unfailing assistance, both in relieving cases of distress brought to their notice, and in receiving for urgent treatment patients whom it was impossible—for many reasons—to admit to the Corporation's institutions.

CALCULATION OF RATES.

Throughout this Report, the various rates are calculated on the census figures of 1926, as the Registrar General does not now issue "estimated" figures for each succeeding intercensal year. This being so, the population figures for Belfast, on which the rates in this Report are based are, therefore, 195,539 males and 218,612 females.

NEW EXAMINATIONS.

Table 1—Shows the number of persons examined for the first time, in each of the years indicated, without regard to sex or diagnosis.

Year ended	Number of Examinations.
31st December, 1930	1638
31st December, 1931	1894
31st December, 1932	1880
31st December, 1933	2161

Table 2—Shows the result of examination of new patients examined during the years indicated.

Year ended	Tuberculous	Suspect	Non- Tuberculous	Total
31st December, 1930	881	120	724	1725
31st December, 1931	1065	172	744	1981
31st December, 1932	1008	177	828	2013
31st December, 1933	1164	157	1031	2352*
Percentages for year ended 31st December, 1933	48%	7%	44%	100%

*Includes 191 transfers from patients formerly only suspect, to tuberculous or non-tuberculous.

The figures set out in Table 2 show an increase of 156 in the numbers found to be suffering from tuberculosis, as compared with the year 1932.

CONTACTS.

Table 3.—Shows the number and result of examination of Contacts set out as Tuberculous, “Suspect,” and Non-Tuberculous.

	Tuberculous	Suspect	Non-Tuberculous	Total
No.	191	29	371	635
Per Cent.	32%	5%	63%	100%

With reference to the percentage of contacts (all ages) found to be tuberculous, it may be well to state that almost all the contacts examined had been previously noticed to be ailing, either by the parent, or by the visiting nurse.

SPECIFIED FORMS OF TUBERCULOSIS.

Table 4.—Shows the form of tuberculosis from which each tuberculous patient was found to be suffering, and the sex of the patient so suffering, including old patients formerly “suspect,” whose diagnosis was made definite during the year.

Year ended	Pulmonary		Glandular		Osseous		Abdominal		Other Forms		Total		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
31st Dec., 1929	344	390	79	46	34	37	28	28	26	20	511	521	1032
31st Dec., 1930	270	332	61	52	29	33	29	15	32	28	421	460	881
31st Dec., 1931	206	389	90	72	35	24	23	39	55	32	509	556	1065
31st Dec., 1932	291	360	83	79	29	22	40	35	34	35	477	531	1008
31st Dec., 1933	329	339	114	124	21	16	45	42	70	64	579	585	1164

A study of the relative numbers of women and men found to be tuberculous at their first examination reveals a diminution in the relative numbers of women during the 19 years of our work. Thus, for every 100 men found to be suffering from pulmonary tuberculosis in the year 1915 we had 150 women similarly affected; while in 1933 for every 100 men diagnosed as suffering from pulmonary tuberculosis we had only 103 women.

When we come to consider deaths amongst men and women the change is even more noticeable. Thus in 1915 for every 100 males who died from pulmonary tuberculosis, 144 females died of the disease; while in 1933 for every 100 males dying from pulmonary tuberculosis only 92 females died.

We, in Ireland, seem to be passing through a similar phase (in regard to the relative incidence of tuberculosis amongst males and females) to that observed in England some thirty years ago, so that it is fair to assume that we shall pass through the same cycle in regard to the death rate, though at a later stage in our experience.

Further, in my opinion, the course of the disease in this country is becoming more chronic and fibrotic in type—a fact which may explain the lengthening period now observed between the inception of the disease and its termination.

RE-ATTENDANCE OF OLD PATIENTS.

The re-attendance of old patients at the Institutes for examination and treatment numbered 24,854 as compared with 22,589 in the year previous. 163 patients unable to attend the Institutes were re-examined in their own homes, and 78 patients were examined at the Belfast Infirmary by the Medical Staff of the Institutes.

PATIENTS ON THE VARIOUS FORMS OF TREATMENT.

Table 5.—Shows the number of patients on the different forms of treatment at the 31st of December, 1933.

Institute (Dispensary)	Domiciliary		Institutional		Open-Air School (Day Section)	Total
	Ins.	Non- Ins.	Sana- torium.	Graymount Hospital.		
1705	2189	1518	256	58	131	5857

The Total number of patients treated during the year was 7043.

These figures include 2,189 insured persons on panel treatment whose supervision devolves upon the Tuberculosis Department in accordance with Par. 47 (b) of the Medical Benefit Regulations which reads :—

A practitioner is required—

“(b) To prepare and send to the Tuberculosis Officer in regard to each
“patient who is recommended by the Tuberculosis Officer to receive
“treatment for tuberculosis from the practitioner reports on forms
“to be provided by the Tuberculosis Officer and approved by the
“Ministry for the purpose, at such reasonable intervals, not
“exceeding three months, during the continuance of such treatment
“as may be arranged between the practitioner and the Tuberculosis
“Officer.”

RE-EXAMINATION OF PATIENTS ON DOMICILIARY AND PANEL TREATMENT.

In addition to the quarterly reports of Domiciliary Doctors regarding tuberculous patients under their care, a special re-examination of patients on Domiciliary and Panel treatment is made at regular intervals by the medical staff of these Institutes. During the year 1933, 1,111 such special re-examinations were made, with the results set out hereunder :—

Table 6.—Shows the Condition of Domiciliary and Panel patients re-examined during the year.

Year	Disease Apparently Cured	Disease Quiescent	Greatly Improved	Improved	In Statu Quo	Worse	Total
1931	52	69	79	177	541	112	1030
1932	52	155	77	163	748	119	1314
1933	56	136	74	141	620	84	1111

(It should be noted that the above re-examinations are exclusive of repeated examinations of new patients for purposes of establishment of diagnosis ; of routine re-examinations of patients in attendance at the Institutes : and of all re-examinations of patients for special purposes).

The figures under the headings “Disease Apparently Cured” and “Disease Quiescent” afford clear proof that tuberculosis is a disease which is amendable to treatment. These figures represent almost 18 per cent. of the total re-examinations of Domiciliary patients, but many patients of the same class fail to attend for re-examination, so that 18 per cent. may be taken as a modest estimate.

Occupations of Tuberculous Patients at their First Examination (arranged according to the Classification—Slightly Modified—of the Registrar-General).

TABLE 7.

I.—GENERAL, OR LOCAL GOVERNMENT OF THE COUNTRY.

Male.

Nil.

Female.

Nil.

II.—PERSONS ENGAGED IN THE DEFENCE OF THE COUNTRY.

Male.		Female.	
Policeman	.....	1	Nil.
Sailor (Discharged)	.....	4	
Soldier (Discharged)	.....	23	

III. —PERSONS ENGAGED IN PROFESSIONAL OCCUPATIONS (AND THEIR SUB-ORDINATES).

Band Boy	.....	1	Chemist's Assistant	.....	1
Chemist	.....	2			
Musician	.....	1			
Photographer	.....	1			
Student	.....	1			
Picture House Attendant	.....	1			
Stage Manager	.....	1			

IV.—PERSONS ENGAGED IN DOMESTIC OR PERSONAL OFFICES OR SERVICES.

Hairdresser	.....	4	Charwoman	.....	7
Cleaner	.....	1	General Servant	.....	18
			Housekeeper	.....	13

V. —PERSONS ENGAGED IN COMMERCIAL OCCUPATIONS.

Agent	.....	1	Clerk	.....	5
Clerk	.....	8	Shop Girl	.....	12
Pedlar	.....	1	Traveller	.....	1
Salesman	.....	4			
Shop Assistant	.....	9			
Traveller	.....	3			

VI.—CONVEYANCE OF MEN, GOODS, MESSAGES.

Bus Conductor	.....	1	Hawker	.....	1
Carter	.....	5			
Messenger	.....	10			
Motor Man	.....	2			
Newsboy	.....	1			
Postman	.....	1			
Porter	1			
Ticket Collector	1			

VII.—PERSONS ENGAGED IN AGRICULTURE.

Farmer	1	Nil.
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VIII.—PERSONS ENGAGED ABOUT ANIMALS.

Nil.	Nil.
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IX.—PERSONS WORKING OR DEALING IN PRINTING, BOOKS, ETC.

Book Binder	1
Printer	2
Sign Writer	.....	1

X—PERSONS ENGAGED WITH MACHINES AND IMPEMENTS.

Male.		Female.	
Blacksmith	1		
Brass Moulder	1	Wire Worker	1
Compositor	1		
Crane Driver	1		
Driller	3		
Electrician	1		
Engineer	15		
Fireman	1		
Hoist Boy	1		
Iron Dresser	1		
Iron Moulder	5		
Iron Turner	2		
Joiner	1		
Motor Mechanic	2		
Paper Cutter	1		
Plater	2		
Plumber	5		
Red Leader	1		
Riveter	3		
Saw Docter	1		
Shipwright	1		
Shipyards Worker	1		
Watchmaker	1		

XI.—PERSONS WORKING AT HOUSES, FURNITURE AND DECORATIONS,

Carpenter	7	Nil.
French Polisher	1	
House Repairer	5	
Painter and Glazer	5	
Stone Polisher	1	

XII.—CARRIAGES AND HARNESS.

Nil.	Nil.
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XIII.—SHIPS AND BOATS.

(See also under X.—“Machines and Implements.”)

Nil.	Nil.
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XIV.—CHEMICALS AND COMPOUNDS.

Nil.	Nil.
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XV.—TOBACCO AND PIPES

Nil.	Tobacco Worker	2
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XVI.—FOOD AND LODGINGS.

Baker	3	Waitress.	2
Barman	3		
Butcher	1		
Grocer	2		
Milk Server	1		
Shop Owner	2		

XVII.—TEXTILE FABRICS.

Male.			Female.		
Bobbin Builder	.....	1	Box Folder	.....	1
Cloth Finisher	.....	1	Carder	.....	3
Flax Dresser	.....	2	Cloth Finisher	.....	1
Heater	.....	1	Doffer	.....	10
Holder Up	.....	1	Drawer	.....	10
Machinist	.....	8	Embroiderer	.....	1
Oiler	.....	1	Examiner	.....	1
Packer	.....	3	Feeder	.....	2
Sett Boy	.....	1	Laundress	.....	8
Shaft Oiler	.....	1	Machinist	.....	2
Thread Tester	.....	1	Ornamenter	.....	1
			Packer	.....	2
			Piercer	.....	1
			Preparer	.....	1
			Reeler	.....	9
			Rover	.....	3
			Spinner	.....	23
			Stitcher	.....	1
			Sweeper	.....	32
			Twister	.....	1
			Wareroom Worker	.....	1
			Weaver	.....	21
			Winder	.....	11
			Factory Worker or Mill-worker (not otherwise defined)		3

XVIII.—DRESS, ETC.

Boot and Shoe Maker	.....	3	Cutter	.....	2
Tailor	.....	3	Dressmaker	.....	2
			Tailoress	.....	1

XIX., XX., and XXI.—ANIMAL, VEGETABLE AND MINERAL SUBSTANCES.

Nil. Nil.

XXII.—GENERAL OR UNSPECIFIED COMMODITIES.

Dealer	.....	1	Bag Mender	.....	1
Hospital Attendant	.....	1	Housewife	.....	106
Labourer	.....	78	Rag Sorter	.....	1
Storeman	.....	1			
Watchman	.....	2			

XXIII.—REFUSE MATTERS.

Nil.

Nil.

XXIV.—PERSONS NOT FOLLOWING PRODUCTIVE OCCUPATIONS.

School Boy	.....	129	School Girl	.....	202
Male Child under School Age	.....	70	Female Child under School Age	.....	51
No Occupation	.....	16	No Occupation	.....	19
		<hr/>			<hr/>
Total Males	.....	215	Total Females	.....	272

N.B.—Discharged Sailors and Soldiers are recorded also under their ordinary calling.

THE QUESTION OF INFECTION.

Table 8.—Shows the possibility of infection by living, or having lived, with other tuberculous persons.

Year ended	Number of Patients who are living, or have lived with one or more definitely tuberculous persons.							Total
	With 1	With 2	With 3	With 4	With 5	With 6	With over 6	
31st Dec., 1931	220	81	19	10	0	0	1	331
31st Dec., 1932	201	84	24	8	0	1	0	318
31st Dec., 1933	242	114	31	13	5	2	3	410

The foregoing Table shows that of the 1,164 new patients examined during the year, no fewer than 410, or 35.6 per cent. had a definite opportunity of infection through contact with other tuberculous patients. These 410 patients knew of their tuberculous relatives and admitted the possibility of infection, but it is likely that a considerable proportion of the remaining 754 new patients did not know of their contact with the disease, or did not choose to disclose it. If we knew the actual facts, it is possible that the number of patients who have had definite opportunities of infection would be shown to be much higher.

The primary source of infection in tuberculosis is the tubercle bacillus in the sputum or other discharge of the patient. If this infected sputum or discharge is not carefully disposed of, or if adequate care is not taken in the cleansing of knives, forks, plates, spoons, etc. used by the tuberculous patient, the results are almost certain to be disastrous—especially amongst the children of the family. It is obvious, therefore, that the improvement of the living conditions of the people, especially in regard to isolation and nursing of a tuberculous patient, is one of the most important factors in the tuberculosis campaign.

VISITING THE PATIENTS IN THEIR HOMES.

With the object of bringing about a more practical knowledge of the causes of tuberculosis, and of the prevention of its diffusion in the family, and amongst the public, our Staff of Tuberculosis Health Visitors paid 35,442 visits to patients in their own homes during the year.

HOME CONDITIONS.

Continued unemployment and the economic conditions resulting therefrom are probably reflected to a large extent in the following four tables :—

Table 9.—Shows the number of rooms in domiciles occupied by tuberculous patients at their first examination.

Year Ended	Rooms in Domicile									Total
		One	Two	Three	Four	Five	Six	Seven	Over Seven	
31st Dec., 1931	Patients	21	54	105	536	80	48	15	1	860
31st Dec., 1932		37	53	109	479	78	59	10	1	826
31st Dec., 1933		42	57	122	621	114	66	12	2	1036

HOME CONDITIONS AT THE FIRST VISIT OF THE NURSE.

Table 10.—Shows the conditions of the homes of the new patients examined during the year, on the first visit of the Nurse.

Year Ended	Excep. Good	Very Good	Good	Aver- age	Bad	Very Bad	Excep. Bad	Total
31st Dec., 1931	3	16	123	579	94	37	8	860
31st Dec., 1932	3	17	127	536	87	45	11	826
31st Dec., 1933	3	21	159	614	147	63	29	1036

The decision as to which of the above headings the condition of the home shall be placed under, has been arrived at after careful consideration of the number of inmates in the house, its cleanliness, ventilation, etc.

PERSONS IN THE SAME BEDROOM AS THE PATIENT.

Table 11.—Shows the number of tuberculous patients sleeping in the **same bedroom** with other persons, as ascertained at the first visit of the nurse.

Year Ended	Alone	With 1 other	With 2 others	With 3 others	With 4 others	With 5 others	With 6 others	With 7 others or over	Total
31st Dec., 1931	153	337	202	88	46	22	7	5	860
31st Dec., 1932	147	324	187	104	42	11	7	4	826
31st Dec., 1933	181	370	272	118	52	23	14	6	1036

PERSONS IN THE SAME BED WITH THE PATIENT.

Table 12.—Shows the number of tuberculous patients sleeping in the **same bed** with the undermentioned numbers of other persons, as ascertained at the first visit of the nurse.

Year Ended	Alone	With 1 other	With 2 others	With 3 others	With 4 others	With 5 others or over	Total
31st Dec., 1931	231	410	169	36	9	5	860
31st Dec., 1932	219	407	154	39	5	2	826
31st Dec., 1933	271	485	213	50	15	2	1036

SPITTING.

The spread of infection within the house is bad enough, and sometimes inevitable in overcrowded conditions, but there is no excuse for the offensive habit of spitting in the streets and public conveyances, where the sputum is liable to be dried and carried into the air or borne on the feet of the passer-by into the homes of the people.

As I have mentioned in previous reports, I feel apprehensive that this ugly and offensive habit is on the increase. Every person who values his own health and that of the community should regard it as his duty to draw the attention of Guards, Bus Conductors, Tram Conductors and other responsible public servants to any person seen spitting in a public conveyance, and as a matter of example should abstain from spitting in the street himself.

WHERE THE PATIENTS LIVE.

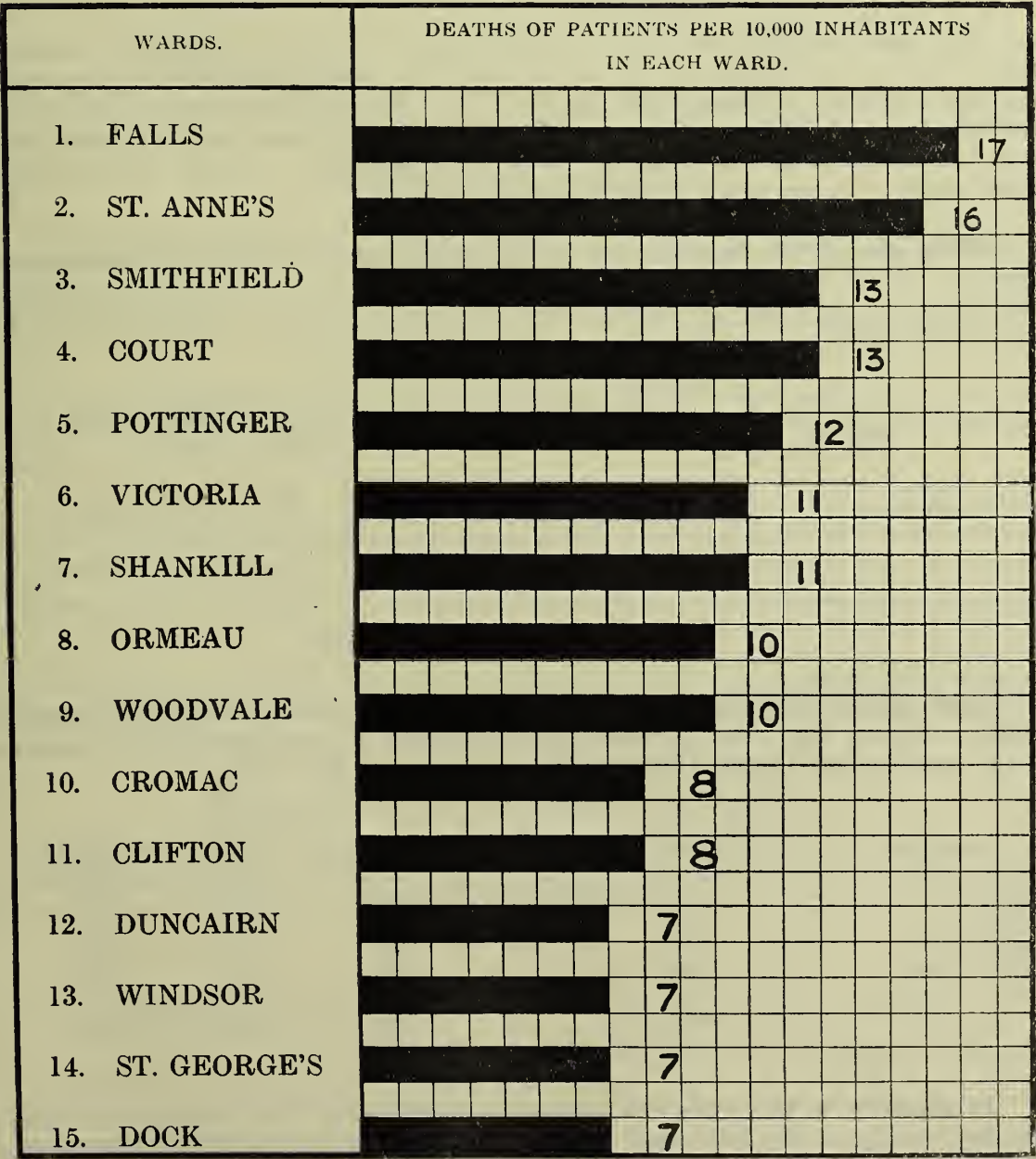
Table 13.—Indicates by wards, arranged in alphabetical order, the localities in which new tuberculous patients lived at the time of their first examination.

Clifton	65	St. George's	43
Court	62	Shankill	100
Cromac	37	Smithfield	43
Dock	71	Victoria	120
Duncairn	78	Windsor	28
Falls	82	Woodvale	72
Ormeau	122	Outside City Boundary	3
Pottinger	166		
St. Anne's	77	Total	1,160

With this Table showing the localities in which the patients live, or were living at their first examination, it is interesting to compare the accompanying Chart, which sets out graphically the wards in which deaths from pulmonary tuberculosis took place during the year 1933.

CHART 2.

SHOWS THE DEATHS FROM PULMONARY TUBERCULOSIS AT A RATE PER 10,000 INHABITANTS, LIVING IN THE WARDS IN WHICH THE DEATH OCCURRED (1933)



X-RAY DEPARTMENT.

The Victor X-ray installation continues to give entire satisfaction, particularly in regard to mechanical precision and film results ; and has over and over again proved of great advantage in helping us to arrive at a definite diagnosis. During the year 411 X-ray films were made: 328 for patients in attendance at the Institutes, and 83 for patients under treatment at the Municipal Hospital for Tuberculous Children, Graymount.

With the increasing use of the X-ray apparatus both for original diagnosis and in the re-examination of patients on treatment, it has become clear that there is very great need for the services of an additional whole-time Medical Officer who would be available not only for X-ray work, but also for the more frequent re-examination of patients in whose case the diagnosis has not been determined, and for the re-examination of patients on Panel and Domiciliary treatment. There is also a growing need for more help from the laboratory side of the work, e.g. from examination and re-examination of sputum, blood counts and other scientific examinations, if we are to maintain our work on an up-to-date level. It is unnecessary to labour this point further than to observe that for the past five years (1928-1933) we have—as a measure of economy—been working with one Medical Officer short of the number found necessary in the years 1919-1927.

ARTIFICIAL LIGHT DEPARTMENT.

The artificial light installation (five types of lamps) continues to prove of great value in the treatment of various forms of tuberculous disease—especially amongst patients suffering from glandular and osseous tuberculosis, lupus, etc., and also amongst delicate children. The new infra-red lamp has been found very useful in the treatment of painful conditions generally, and also in promoting more rapid cure in slowly-healing ulcers.

Table 14.—Shows the number of Light Treatments administered during the year :—

Institute	Treatments Given					Total
	Carbon Arc	Mercury Vapour	Kromayer	Sollux	Infra Red	
Central	3446	45	40	35	114	3680
A.B. Road	—	5101	—	—	59	5760
	3446	5146	40	35	173	9,840

DENTAL DEPARTMENT.

Table 15.—Shows the nature and amount of the dental work carried out for patients during the year. These figures indicate a very considerable increase in the work of the Dental Department, as compared with 1932.

Institute	Fillings	Scalings	Dressings	Extractions	Total Treatments
Central	91	.....	409	159	659
A.B. Road	145	.....	706	172	1023
Graymount	165	.....	442	21	628
G.O.A. School	69	.....	270	28	367
Total	470	.....	1827	380	2677

In addition to the work set out in the table below, Mr. Black also attends one day weekly at the Municipal Sanatorium and one day weekly at Graymount Hospital and Open-Air School.

LABORATORY WORK.

Table 16.—Shows the nature and amount of the laboratory work done during the year.

Year Ended	Examinations.			Tuberculins prepared
	Sputa	Chemical (Sputa & Urines)	Haematological (Sedimentation & films)	
31st Dec., 1933	867	926	142	46

The haematological examinations consist mainly of blood sedimentation tests and differential blood-counts. Without making any claim as to the value of blood examination in itself as an aid to diagnosis, I have found that the sedimentation test and blood cell assessment are of great assistance in arriving at a decision as to prognosis, and as a scientific and reliable guide in treatment. By means of these tests, the physician is relieved from dependence on the frequently misleading opinion of the patient as to his own condition and progress.

Table 17.—Shows the result of examinations of sputa for tubercle bacilli and albumin, or albumose.

T.B.+Alb.+	T.B.+Alb.—	T.B.—Alb—	T.B.—Alb.+
143	4	646	74

ALBUMIN IN SPUTUM.

The presence of albumin or albumose in sputum is always significant, and a consideration of Table 17 above shows how rarely albumin or albumose is absent when tubercle bacilli are found in the sputum. In all probability the presence of albumin or albumose is due to cytolysis, and if the pulmonary lesion is active it is natural that these should be found in the sputum of the tuberculous patient.

We have begun an interesting follow-up (which will require some years to complete) of patients whose sputum shows albumin or albumose, but no tubercle bacilli.

TECHNIQUE of the Albumin Test. The following has been found satisfactory: Two volumes of three per cent. Acetic acid is mixed with one volume of sputum to get rid of mucus. If the mucus comes through on first filtration, the filtration must be repeated until the fluid is clear. Albumin is then tested for by one of the classical methods, and, if present, will appear as a curdy precipitate which settles on standing as a sediment in the bottom of the tube. Fishberg observes that “nothing but a curdy precipitate should be regarded as positive, because the presence of mucus may give a cloudy precipitate on boiling, although this precipitate is not curdy, nor does it settle on standing.”

TREATMENT OF INSURED PERSONS.

Table 18.—Shows the number of Insured and Non-Insured persons examined for the first time, and patients formerly diagnosed “Suspect” or “Non-tuberculous” whose diagnoses were altered to “Tuberculous” or “Non-tuberculous” during the year 1933:—

Year	Insured & Exempt		Total	Per cent of Grand Total	Non-Insured		Total	Per cent. of Grand Total	Grand Total
	Male	Female			Male	Female			
1933	316	318	634	27%	816	902	1718	73%	2352

Table 19.—Shows the number of patients found on examination to be tuberculous or “suspect” requiring treatment, and number found to be non-tuberculous.

Year	Tuberculous or Suspect				Total	Per cent. of Grand Total	Non- Tuberculous				Total	Per cent. of Grand Total	Grand Total
	Insured		Non- Insured				Insured		Non- Insured				
	M.	F.	M.	F.			M.	F.	M.	F.			
1933	260	225	396	440	1321	56%	63	94	416	458	1031	44%	2352

The grand total includes 191 “suspects” transferred in the year under review to the tuberculous or non-tuberculous class.

Table 20.—Shows the forms of tuberculosis from which new insured patients examined during the year were found to be suffering.

Year	Pulmonary		Glandular		Osseous		Abdominal		Other or General		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1933	203	163	2	8	5	3	4	7	2	7	404

The number of Insured persons under supervision or treated, throughout the year was 2,672. The number on Panel treatment at the end of the year, compared with previous years, is shown in the following table.

Table 21.—Shows the number of insured persons on treatment or under medical supervision at the end of the years indicated.

Year	1926	1927	1928	1929	1930	1931	1932	1933
Persons	1664	1784	1817	1909	1806	2068	2448	2189

TREATMENT OF EX-SERVICE MEMBERS.

The number of men who served in the war, examined for the first time during the year, was 27 as compared with 31 in the year 1932.

Table 22.—Shows the number of Discharged Service members on the various forms of treatment, at the dates mentioned.

Date	Institute	Panel	Sanatorium	Total
31st December, 1931	28	204	6	238
31st December, 1932	37	158	6	203
31st December, 1933	17	163	8	186

MUNICIPAL SANATORIUM.

For details of the work carried on at the Municipal Sanatorium the Report of the Resident Medical Superintendent, Dr. P. S. Walker, should be consulted. Here it will be sufficient to say that during the year, 550 patients were admitted to the Institution and 510 were discharged.

It is admitted that during recent years our institutional accommodation for patients suffering from the pulmonary and non-pulmonary forms of tuberculosis is becoming less and less adequate. To meet the need for additional accommodation, conversations were begun with the Belfast Board of Guardians in October last with a view to the provision of beds for "overflow" patients from the Sanatorium in two wards specially set apart at the Belfast Infirmary, and arrangements have been now completed whereby the Corporation will pay the Belfast Guardians a fixed sum per week for the treatment of these patients at the Belfast Infirmary. Even with this increased provision, the demand for beds is still increasing, and the waiting list grows longer. As a permanent solution of the problem, the Tuberculosis Committee submitted proposals to the Council for extension of the premises at the Sanatorium, together with the necessary extensions for the increased Nursing and Domestic Staffs, and these proposals have met with the approval of the Council.

The fact that as a general rule the tuberculous patient is unwilling to undergo institutional treatment in the early stages of his disease cannot be allowed to prevent us from giving him what medical treatment and nursing care is possible when he arrives at an intermediate, or even an advanced stage of the disease. The patient nursed at home in an unsuitable environment is almost always a centre of infection to the remainder of the household, and the Scheme of the Corporation is not merely to treat tuberculosis, but to prevent it when this is possible.

GRAYMOUNT HOSPITAL,

Details of the work carried on at the Municipal Hospital for Tuberculous Children, Graymount, will be found in the Annual Report of the Visiting Surgeon, Mr. H. P. Malcolm, M.C. Since the opening of the Hospital in 1921, 312 patients have been admitted suffering from the various forms of non-pulmonary tuberculosis (mainly osseous). In over 80 per cent. of the patients discharged from the Hospital the disease was cured without deformity.

What has been said above with reference to the need for increased accommodation for adult patients at the Sanatorium applies with even greater force to Graymount Hospital and the treatment of children suffering from the non-pulmonary ((including the hilar) forms of tuberculosis. This matter has also been engaging the attention of the Committee, and it is hoped that the extension of the Hospital (to which the Ministry of Home Affairs have promised a grant of £3,000) may be well under way before the end of 1934. This will give additional accommodation for about 100 children immediately, and ultimately for 150. Fortunately the treatment of children amply repays the outlay on nursing and treatment, since the illness is detected at an earlier stage in the disease, and treatment is generally attended with better results than in the case of adults.

GRAYMOUNT OPEN-AIR SCHOOL.

The open-air School under the supervision of Miss Thompson and her four assistants (working under very restricted and make-shift conditions) continues to fill a most important function in the prevention of tuberculosis amongst child "contacts" of our patients. Here again the need for extension is making itself felt. What is needed, indeed, is not extension, but a new School with modern equipment. Nor is this need confined to Graymount. Our close co-operation with the School Medical Services Department, under Dr. T. S. F. Fulton, makes it plain that many children at present attending the ordinary schools—or unable to attend the ordinary schools through "delicacy" or frequent ailments—would be

greatly benefited by attendance at special Open-air Schools where mid-day rest and proper food might build them up into sturdy healthy adults.

The average daily attendance at both sections of the School during the year was as under :—

Day Section	116.3
Hospital Section (exclusive of children under school age)	44
Total daily average at both Sections	160.3
Number on Rolls at 31/12/33	175.0

These numbers show a considerable increase as compared with 1932.

INSTITUTIONAL ACCOMMODATION.

In accordance with a request from the Ministry of Home Affairs, the following particulars are set out annually :—

Hospitals provided by the Sanitary Authority or the
County Council:

Tuberculosis Hospitals.

- | | |
|---|----------|
| 1. Municipal Hospital for Tuberculous Children, Graymount, Belfast. (For the treatment of non-pulmonary tuberculosis in children) | 58 beds |
| 2. Municipal Sanatorium, Whiteabbey, Co. Antrim. (For all forms of tuberculosis in adults and children) | 285 beds |

Clinics and Treatment Centres.

- | | |
|--|------------|
| 1. Central Tuberculosis Institute, Durham Street, Belfast. | |
| 2. Tuberculosis Institute, 225 Albertbridge Road (Branch). | |
| 3. Open-air School—Day Section—Graymount, Belfast | 120 places |

Artificial Light Clinics for Tuberculous Diseases.

- | |
|---|
| 1. At Central Tuberculosis Institute, Durham Street, Belfast. |
| 2. At Tuberculosis Institute, 225 Albertbridge Road, Belfast. |

TABLE 23.

NEW CASES AND MORTALITY DURING 1933.

Age Periods	New Cases		DEATHS.			
	All Forms of Tbs.		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.
0-4 incl.	53	53	4	1	26	19
5-9 „	150	114	2	.....	4	7
10-14 „	75	85	2	10	8	7
15-19 „	62	54	11	22	5	12
20-24 „	55	85	35	30	2	9
25-34 „	83	91	58	53	7	13
35-44 „	59	61	43	35	10	5
45-54 „	28	20	34	22	6	2
55 and upwards	18	18	28	23	4	7
Totals	583	581	217	196	72	81

*These figures are compiled from the Returns of deaths occurring in the city submitted by District Registrars to the M.S.O.H. and are subject to correction by the Registrar General.

DEATHS AND DEATH RATES.

PULMONARY TUBERCULOSIS—The number of deaths from pulmonary tuberculosis in 1933, calculated from the Registrar General's Weekly Returns, was 429, as compared with 448 in 1932, and with 836 in 1914. The uncorrected death rate, therefore, in 1933 was 1.03 per 1,000, a decrease of 50 per cent. as compared with 2.1 in 1914.

NON-PULMONARY TUBERCULOSIS—The number of deaths from the non-pulmonary forms of tuberculosis in 1933 was 171, as compared with 105 in 1932, and 290 in 1914. The death rate, therefore, from non-pulmonary tuberculosis in 1933, was 0.43 per 1,000, as compared with 0.72 in 1914—a reduction in the non-pulmonary mortality rate of about 40 per cent. in nineteen years.

NOTIFICATION OF TUBERCULOSIS.

Of the 600 persons who died from all forms of tuberculosis during the year, 475 were patients who had been notified either to this Department or to the Medical Superintendent Officer of Health. Of these 475, 38 (8 per cent.) died within one month of notification; 72 (15 per cent.) lived over one month, but died within six months from the date of notification; while 66 (14 per cent.) lived over six months from the date of notification, but died within one year. In other words, no fewer than 176 (over 37 per cent.) died within a year of notification. Indeed until the present year our general experience has been that of the patients dying from tuberculosis in any year not more than 50 per cent. have been known to us for a year or longer. The above figures, however, would seem to indicate an improvement in notification; e.g. the number of patients who died within one month of notification has fallen from 18 per cent. in 1932 to 15 per cent. in 1933; the numbers dying within six months of notification have fallen from 12 per cent. to 8 per cent. as compared with 1932, and the numbers dying within one year of notification from 70 to 66 per cent.

Late notification of tuberculosis seems to be almost entirely due to the delay of the patient in consulting his Medical Attendant. The cause of this delay is mainly associated with the psychology of the tuberculous patient and his indulgence of the vain hope that there is nothing wrong, or that his condition is due to "a cold" and will clear up automatically. Thus time which the patient can ill afford to lose is wasted, and the door is left open for the spread of the disease to his "contacts." In this way tuberculosis presents problems in prevention and cure unknown in almost any other realm of medicine.

MILK.

It is satisfactory to note that the demand for and use of Grade A (T.T) milk continues to increase from year to year. Thus for the year ended 30th September, 1928, there were only 13 Grade A producers and distributors in the whole of Northern Ireland, whereas for the year ended 30th September, 1933 the number had risen to 61. It is to be noted that the importance of clean milk reaches far beyond any question of the prevention of tuberculosis in that it eliminates the element of human contagion in such diseases as diphtheria, scarlet fever, typhoid, and probably also in undulant fever—a disease which, in many cases, bears points of superficial resemblance to influenza. Further, the care required in producing clean milk has had its effect in raising the general standard of health in dairy cattle, and dairymen have not been slow to observe that there is less sickness amongst their herds than under the old system of milk production. In addition to all this Grade, A (T.T.) milk keeps fresh for a much longer period than ordinary untreated milk; hence it is not only safer but more economical for the consumer.

CHART 3
SHOWING THE INCIDENCE OF MORTALITY FROM PULMONARY TUBERCULOSIS
AMONG MALES AND FEMALES IN AGE-PERIODS OF FIVE YEARS, CALCULATED
PER 1,000 MALES AND FEMALES LIVING IN EACH AGE-PERIOD, FOR THE YEAR
ENDED 31st DECEMBER, 1933.

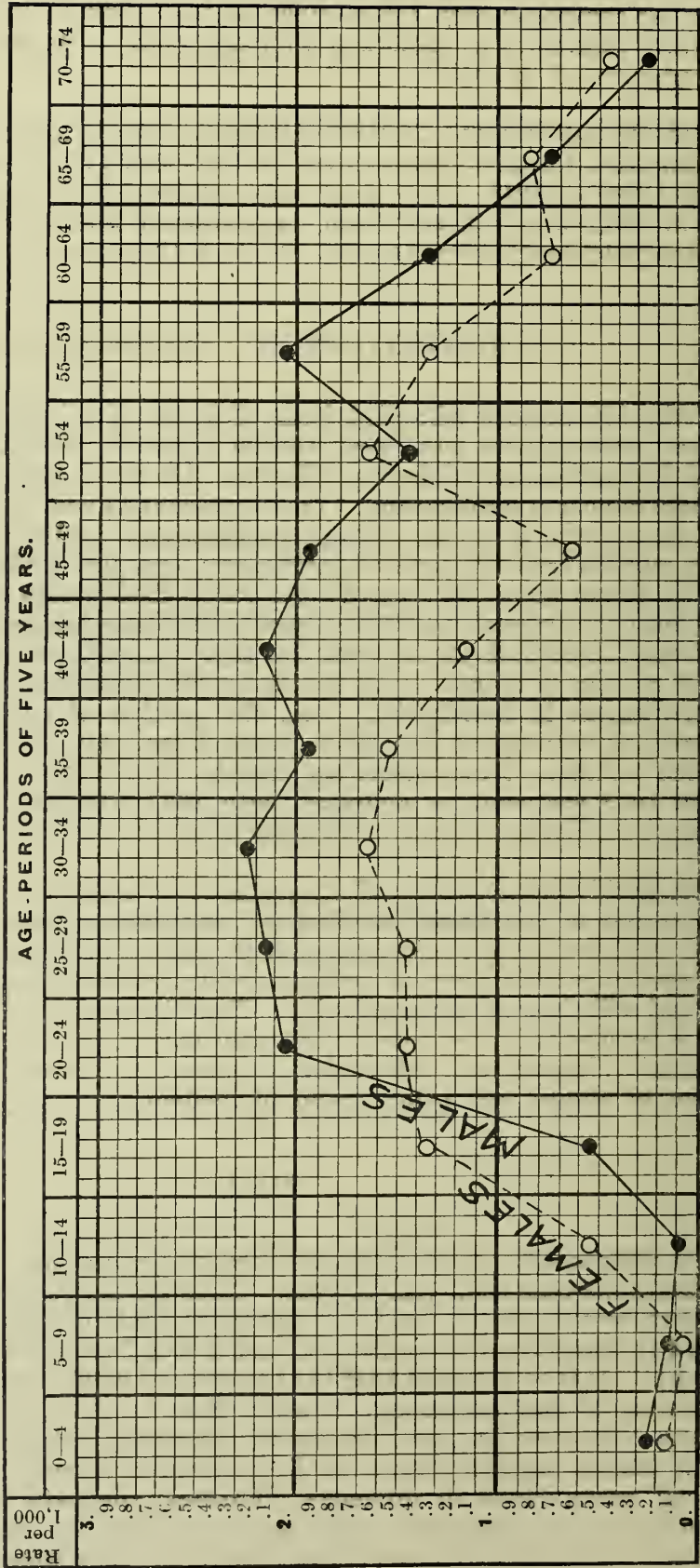
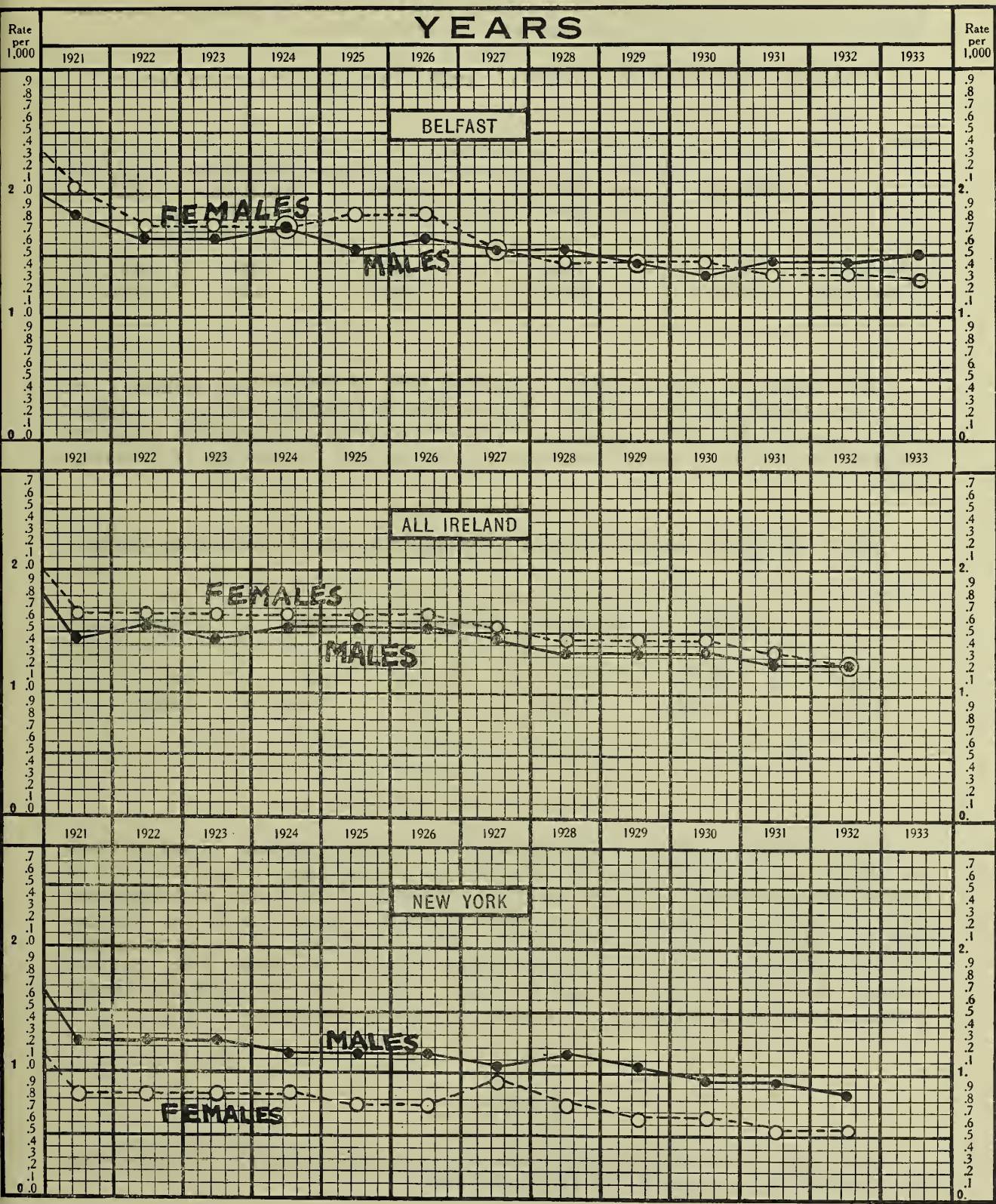


CHART 4

SHOWS THE COMPARATIVE INCIDENCE OF THE MORTALITY FROM ALL FORMS OF TUBERCULOSIS AMONGST MALES AND FEMALES IN BELFAST, IRELAND AND NEW YORK.



PREGNANCY AND TUBERCULOSIS.

Regarding the effects of pregnancy on tuberculosis and of tuberculosis on pregnancy, I have made continued enquiry into the results of pregnancy in tuberculous mothers, and the results are set out hereunder :—

Table 24.—Shows the end results of pregnancy in tuberculous mothers :—

	Miscarried	Delivered of—			Total
		Living Full-term child	Premature child	Deadborn child	
No.	84	1436	28	35	1583
Percentage	5.3 %	90.7 %	.8 %	2.2 %	100 %

With regard to the condition of children born of tuberculous mothers : we have kept records of the condition of a number of these children over a period of nine years. All these children were born since the mothers were diagnosed tuberculous, and the reports on their health at the end of the year 1933 were as follows :—

Table 25.—Shows the condition of 1,169 children born of tuberculous mothers

	Healthy	Delicate	Tuberculous	Dead	Total
No.	800	132	52	185	1169
Per cent.	68.4 %	11.3 %	4.4 %	15.9 %	100 %

CLIMATIC CONDITIONS.

It is a matter for regret that the capital of Northern Ireland should still lack an official meteorological station, for although private observers give records of rainfall, air temperature, etc., no record is available of the hours of bright sunshine in Belfast. In the absence of such record it is impossible to say whether Belfast is better or worse off in this respect than other cities, but in an industrial city like ours the amount of sunshine which reaches the ground level must be seriously lessened by domestic and industrial smoke, thus retarding the normal growth of children, and impairing the health of the community.

RAINFALL.

Table 26.—Shows the Rainfall in inches and the days on which rain fell during the year 1933, as compared with 1931 and 1932.

Year	Rainfall in inches	Days on which rain fell.
1931	43.25	263
1932	38.19	261
1933	25.27	165

SUMMARY.

1. During the year, 2,161 persons notified as suffering from signs of tuberculosis in various forms were examined, as compared with 1,889 in the previous year (vide Table 1).

2. Of the 2,161 persons examined during the year, 49 per cent. were found to be tuberculous, and 7 per cent. "suspect," while 44 per cent. were regarded as not suffering from tuberculosis (vide Table 2)

3. The re-attendances of old patients at the Institutes, for examination and treatment, numbered 24,853 as compared with 22,589 in the year 1932. This in addition to the 1,935 new patients examined, makes a total of 26,788 attendances and treatments during the year. 163 old patients were too ill to attend the Institutes and were re-examined in their own homes, and 78 were re-examined at the Belfast Infirmary by the Staff of the Institutes. This, of course is exclusive of attendances on patients in their own homes by Panel Doctors; and Domiciliary Doctors acting under the scheme of the Corporation.

4. The numbers of patients on the various forms of treatment at the 31st December were as follows:—

Institutes	1,705
Panel and Domiciliary	3,707
Sanatorium	256
Graymount Hospital	58
Graymount O.A. School	131
Total	5,857

5. The number of visits paid by the Visiting Nurses to patients in their own homes during the year was 35,442 as compared with 31,065 in 1932.

6. The total number of patients who received treatment during the year was 7,043.

7. **Table 27.**—Shows the results of treatment according to the reports received from Institute, Institutional, Domiciliary, and Panel Doctors:—

Form of Treatment.	Reports received throughout the Year.	Condition as shown in Reports received during the last Quarter of the year.				
	D.A.C.* or D.Q.	G.I.	Imp.	I.S.Q.	Worse	Total
In Municipal San	2	5	130	59	15	211
Discharged Municipal Sanatorium	33	24	295	118	12	482
In Graymt. Hospital	8	34	8	6	.....	56
Discharged Graymt. Hospital	11	.....	1	.....	.....	12
At Graymount Open Air School .....	.....	.....	57	16	1	74
Domiciliary & Panel	30	98	703	1841	145	2817
Institutes	2	2	448	285	6	743
Total	86	163	1,642	2,325	179	4,395

*D.A.C.—Disease apparently cured.

D.Q.—Disease Quiescent.

G.I.—Greatly Improved.

Imp.—Improved.

I.S.Q.—In Statu quo.

8. During the year 429 persons died of the pulmonary form of tuberculosis and 171 of the non-pulmonary forms as compared with 448 and 105 respectively in the preceding year.

9. Of the 600 persons who died in Belfast from all forms of tuberculosis during the year, 475 were patients under the care of this Department. Of these, 38 died within one month of their first examination by us; 110 within six months 176 or over 37 per cent. within one year. From these figures it may be inferred that the stage at which patients are first notified is often too late to admit of effective treatment.

10. **Table 28.**—Shows the declining trend of the death rate from pulmonary tuberculosis in Belfast during the last 16 years:—

Year	No. of Deaths	Death rate per 100,000	Comparison with 1918 as 100.
1918	1051	267	100
1919	853	212	81.16
1920	762	184	72.5
1921	677	161	64.4
1922	624	147	59.37
1923	571	133	54.33
1924	605	139	57.56
1925	575	131	54.7
1926	570	136	54.2
1927	515	124	49.0
1928	499	120	47.3
1929	485	116	46.14
1930	426	102	40.5
1931	464	111	44.1
1932	448	107	42.6
1933	429	103	40.8

From this Table it will be seen that for every 100 persons who died of Pulmonary tuberculosis in Belfast in 1918, only 40.8 died of the disease in 1933—a reduction in the rate of more than 59 per cent. in fifteen years.

Thanking the Committee for their help and encouragement at all times so freely extended.

I am, Ladies and Gentlemen,

Your obedient servant,

Andrew Trimble

Chief Tuberculosis Officer.

THE MUNICIPAL SANATORIUM
WHITEABBEY

REPORT
Report for the Year 1933

BY
P. S. WALKER, M.D., B.Ch., B.Sc., D.P.H.
Medical Superintendent

MUNICIPAL SANATORIUM, WHITEABBEY.

REPORT

OF THE

Medical Superintendent.

MEMBERS OF THE TUBERCULOSIS COMMITTEE, 1933.

THE RIGHT HONOURABLE THE LORD MAYOR,
Councillor SIR CRAWFORD M'CULLAGH, J.P.

Councillor W. A. COCHRANE, J.P.
(Chairman).

Councillor C. SCOTT
(Deputy Chairman).

Alderman W. H. ALEXANDER.

Alderman R. PIERCE

Alderman DR. J. D. WILLIAMSON, J.P.

Councillor F. G. H. ANDERSON, M.A., I.C.S.

Councillor J. HOLLAND.

Councillor J. BOYLE.

Councillor DR. H. P. LOWE.

Councillor Mrs. J. COLEMAN.

Councillor M. M'KIBBIN.

Councillor LT. COM. R. M. HARCOURT.

Councillor S. V. TUGHAN.

Councillor M. HOPKINS, J.P.

Councillor R. J. GROVES.

Miss E. M'COMB.

Mr. K. M. ALEXANDER, F.I.A.A.

Mr. JAMES PARKHILL, J.P.

STAFF OF THE DEPARTMENT.

Medical Superintendent	.....	Dr. P. S. WALKER.
Visiting Physician	.....	Dr. J. C. RANKIN.
Assistant Medical Officer	.....	Dr. D. K. WATTERSON.
House Physician	.....	Dr. A. E. LAVELLE.
Visiting Dental Surgeon	.....	Mr. O. BLACK, L.D.S.
Visiting Chaplains	.....	Rev. W. B. M'MURRAY, B.A.
” ”	.....	Rev. F. MAGUIRE, B.A.
” ”	.....	Very Rev. J. O'NEIL, P.P., V.F.
Matron	.....	Miss E. WOODS, S.R.N.
Steward	.....	Mr. STEWART FINLAY.
School Mistress	.....	Miss E. DUNLOP.
” ”	.....	Miss E. HAMILTON.

THE REPORT OF THE MEDICAL SUPERINTENDENT

ON THE WORKING OF

THE BELFAST MUNICIPAL SANATORIUM, For the Year ended 31st December, 1933.

SUBMITTED TO THE MEDICAL SUPERINTENDENT OFFICER OF
HEALTH THROUGH THE CHAIRMAN AND MEMBERS OF THE
TUBERCULOSIS COMMITTEE.

Mr. CHAIRMAN, LADIES and GENTLEMEN,

I have the honour to present to you the following report on the working and progress of the City Sanatorium.

As in previous years the customary sections and statistical schedules have been followed in order to facilitate comparative reference and to preserve the formal continuity of these annual statements. The statistical schedules, classification of cases, and records of results are based upon the requirements of the Ministry of Health in regard to like cross-channel institutions.

In accordance with the request of the Ministry of Home Affairs (N.I.) the situation of the Sanatorium, the question of maintenance, and the capacity are hereunder briefly set out:—

Situation.—The Sanatorium is situated some five and a half miles north of the city centre, on the southern slopes of the Antrim Hills. The vista embraces the City of Belfast, Belfast Lough, County Down, the distant coast of Scotland, the Copeland Isles, the Antrim Coast line including the town of Carrickfergus, as far as Kilroot Point.

Hills, which range in a semi-circle extending from the Cavehill to the Knockagh Mountain at Greenisland, shelter the Sanatorium from cold winds and render it well suited for a health resort at the one time mild, equable, and bracing.

Layout.—The Sanatorium is arranged as a Hospital and four Pavilions centring round the Administrative Block and Nurses' Home as a nucleus. All structures are of a permanent nature, erected with brick.

The grounds comprise some 33 acres of land, sloping gently seawards. They have been laid out with discriminating taste and contain a profusion of rare and beautiful trees and plants. A large market garden with two greenhouses is under cultivation and supply the needs of the institution in respect of vegetables and vitamin carriers.

The terraces, walks and carriageways have recently been relaid and are unexcelled.

Maintenance.—The Sanatorium is maintained on a basis of combined "state-and-rate-aided," one half of the expenditure being derived from the Ministry of Home Affairs and one half from the City rates. The problem as to the financial responsibility for further extensions and new works is at present under consideration, and the trend of opinion would seem to indicate that such responsibility will in future fall upon the City Exchequer, the Ministry probably only accepting liability for one half the total cost of maintenance.

Capacity.—The utmost capacity of the Sanatorium is 285 beds, distributed according to the following table. All types of cases at all ages are admitted—pulmonary and surgical cases at ages from a few months to 75 years of age.

TABLE No. 1.

	Pulmonary Tuberculosis.		Surgical Beds	Total
	Sanatorium Beds.	Hospital Beds.		
Males	97	25	12	134
Females	54	25	8	87
Children	28	.....	36	64
Total	179	50	56	285

The capacity of the institution is seriously taxed and a considerable amount of overcrowding occurs. Furthermore, the above schedule cannot be strictly adhered to and departures from normal working are weekly occurrences. With an accommodation schedule which permits of little or no elasticity such departures from normal entail serious overcrowding.

Type of Case.—The average type of case coming under residential treatment shows some slight improvement upon that of previous years, but the number of patients admitted in the final stages is still too large. There has been a great increase in the number of children suffering from both pulmonary and surgical types of disease, and No. 1 pavilion, which in 1931 was set apart as a surgical unit of 36 beds is constantly full of children under 14 years of age.

Accommodation (Patients) :—At the time of writing this vexed question is still under review. As already stated the utmost capacity of the institution is 285 beds, and the figures are only arrived at by a total non-observance of cross-channel regulation in respect of space between beds, etc. With 285 beds occupied the Sanatorium is seriously overcrowded. Matters become infinitely worse when as occasionally happens it is not possible to follow the bed schedules and one or other section becomes unduly taxed, despite perhaps another section being comparatively slack. Recreation rooms now are practically non-existent having been converted into wards. There is no proper room for religious services, which question formed the subject of a clerical deputation to Committee in November.

All city hospitals have experienced in late years the same demand for additional accommodation. Voluntary hospitals have been erected and others enlarged; other state-and-rate-aided hospitals appear to erect children's and maternity extensions and nurses' homes with impunity. Surely it is not too much to expect that the city sanatorium itself will not be behind in its provision for the harassed rate-payer when the latter falls on bad times.

Accommodation (Staff) :—By reason of the increased number of beds and more particularly by the disproportionate increase in bed patients (surgical and advanced pulmonary), it has been necessary to augment the nursing staff. As a result the nurses' home is overcrowded to a dangerous degree. Four and five probationers share one room. The night staff is housed in attics, whence in the event of fire, it might be difficult to extricate them. Ten bedrooms have been extemporised out of old hay lofts in close proximity to the pig yard !

I have no doubt but that the incidence of sore throats and catarrhal conditions among my nursing staff is brought about rather by the conditions under which they sleep than those under which they live and work. Again when a nurse

does become ill, there is no sick room available and she must of necessity either be warded or be transferred to some institution kind enough to accept her.

In the month of February, 1932, a deputation consisting of the Chairman of the Tuberculosis Committee (Councillor W. A. Cochrane, J.P.) the Chief Tuberculosis Officer (Dr. A. Trimble) and myself crossed to England and visited sanatoria with a view to obtaining the most up-to-date data available in regard to the erection of a new patients' unit and an extension to the nurses' home. A large amount of valuable information was obtained and formed the subject of a special report to Council.

It has now been decided to offer prizes for the best interpretation from an architectural point of view of the recommendations embodied in the report, and all that requires to be now done is to find the capital involved. It is sincerely hoped that next Annual Report will have something to say about the ceremony of "cutting the sod."

STAFF.

Medical Staff.—No change has occurred in this staff throughout the year.

Clerical Staff.—By reason of ill health Miss Jordan, the senior clerk on the steward's staff, was compelled to resign her position, which was filled by the appointment of Miss N. Morton. I should take this opportunity of recording the loyal and conscientious service rendered by Miss Jordan during her 16 years of office.

Nursing Staff.—As a result of the increased work associated with the X-Ray, Actino-Therapeutic Theatre and Confidential Record Department it was found necessary to place a sister in charge of this as one section. Further details of this section are given at a later stage in this report.

It is to be regretted that owing to lack of accommodation the proposition to have the sanatorium affiliated with a general hospital under the Nursing and Midwives' Act (1922) has not become possible. Such affiliation would render the Corporation Probationer Nursing Service more attractive in that probationer nurses would thereby be in a position to proceed from the sanatorium to a general hospital for registration, instead of, as at present, having the period spent in the sanatorium not officially recognised. It is becoming increasingly difficult to obtain suitable candidates as probationers and some such affiliation scheme would undoubtedly improve the type of candidate coming forward. However as the scheme necessitates the appointment of a sister-tutor and additional nursing staff (to permit of lectures, etc.), it is out of the question until the accommodation problem is settled.

The staff complement of the sanatorium is as follows:—

General Staff—

Medical Superintendent	1
Assistant Medical Officers	2
Visiting Physician	1
Visiting Dental Surgeon	1
Visiting Chaplains	3
School Mistresses	2

Nursing Staff—

Matron	1
Night Superintendent	1
Sisters	5
Staff Nurses	6
Probationers	25

Clerical Staff—

Steward	1
Clerks	2

Mechanical Staff—

Fitter	1
Firemen	2

Domestic Staff—

Housekeeper	1
Cooks	2
Maids	19

Outdoor Staff—

Gardener	1
Carpenter	1
Porters	3
Attendants and Labourers	8

*Total number of Staff 83

Number of Nursing Staff per 10 beds 1.33

*Number of Total Staff per 10 beds 2.91

*Excluding Chaplains, Teachers and Dental Surgeon.

STATISTICS.**Table No. 2.**—Annual Return showing the Extent of Treatment during 1933 :

	In Institution 1 1 33	Admitted During 1933	Discharged During 1933.	Died During 1933.	In Institution 31 12 33.
Number of Patients	273	550	510	56	257

Table No. 3.—Annual Return showing the Classification of the Patients admitted during 1933 (excluding 18 re-admitted).

Type of Case.	Men.	Women.	Children.	Total.
Pulmonary Phthisis	230	147	76	453
Surgical Tuberculosis	20	12	33	65
*Reclassified	10	4	.....	14
Total	260	163	109	532

*Vide Table, No. 5.

Table No. 4.—Annual Return showing the Classifications of the Patients discharged during 1933 (excluding those discharged under headings in Table No. 5).

Type of Case.	Men.	Women	Children.	Total.
Pulmonary Phthisis	196	108	54	358
Surgical Tuberculosis	14	6	40	60
Total	210	114	94	418

Table No. 5.—The following table comprises those cases not included in the Discharge Table No. 4. This table includes a synopsis of patients who remained in residence for periods of less than one month, of patients who were re-discharged more than once during the year, and of patients in regard to whom the diagnosis of Tuberculosis was not confirmed after observation.

	Men.	Women.	Children.	Total.
In Residence Less than, One Month	28	17	20	65
Re-discharges	10	4	1	15
Re-diagnosed, etc.	9	3	.....	12
Total	47	24	21	92

The following schedule indicates the complexes ascertained in respect of nine patients whose diagnosis were not confirmed after observation. In five additional cases no morbid condition was elicited.

1. Multiple Secondary Carcinomata.
2. Paraplegia.
3. Syphilis.
4. Syphilis.
5. Syphilis.
6. Bronchiectasis.
7. Arthritis.
8. Bronchitis.
9. Urinary Carcinoma.

A number of recently admitted cases are still under review as to the actual condition present.

The difference between the fourteen re-dianosed patients admitted and the twelve such patients discharged is explained by the fact that one patient in the schedule died and one patient was in residence at the close of the year.

The following complications were noted upon admission or occurred during residence :—

Other form of Tuberculosis :—			Ear Disease	3
a. Abdominal	8		Empyema	4
b. Cutaneous	2		Endocarditis	5
c. Genito-Urinary	6		Epilepsy	1
d. Glandular	9		Gastric Ulcer	2
e. Laryngeal	11		Gynaecological Condition	1
f. Osseous	6		Impetigo	1
Acne	10		Ischiorectal Abscess	3
Albuminuria	7		Iritis	6
Bazins Disease	4		Jaundice	1
Blepharitis	2		Neurasthenia	1
Bronchitis	4		Pleural Effusion	4
Cataract	1		Pregnancy	2
Cervical Abscess	3		Psychoneurosis	5
Duodenal Ulcer	2		Psoriasis	2

The Occupations of the various adult patients admitted were as follows :—

Photographer	1	Hairdresser	2
Weaver	11	Farmer	1
Housekeeper	36	Carder	4
Messenger	11	Boot Repairer	2
Bus Driver	1	Musician	3
Doffer	1	Telephone Operator	2
Grocer	1	Porter	1
Labourer	56	Clipper	1
Painter	1	Hoist Boy	1
Maid	5	Tobacco-Worker	5
Clerk	11	Baker	1
Shop Assistant	10	Mechanic	4
Ex-Service	39	Crane Driver	1
Nil	26	Iron Turner	4
Waitress	1	Sign Writer	1
Fruit Cleaner	1	Printer	3
Watchman	1	Vanman	1
Packer	2	Mill Worker	2
Wire Worker	2	Traveller	1
Shoemaker	1	Dental Agent	1
Barman	1	Golf Caddy	2
Joiner	4	Chemist	1
Tram Conductor	1	Boxmaker	1
Roller Boy	3	Bagmender	1
Salesman	2	Riveter	2
Plumber	3	Charwoman	1
Body Builder	1	Milk Vendor	1
Smith's Helper	1	Tailor	3
Machine Man	8	Fireman	2
Fluter	1	Shipwright	1
Flax Dresser	5	Hawker	1
Picture House Attendant	1	Cleaner	1
Moulder	2	Stripper	1
Carter	5	Caulker	1
Electrician	5	Textile Labourer	1

Stitcher	.....	18	Bottler	.....	1
Card Puncher	.....	1	Butcher's Assistant	.....	2
Winder	.....	7	Waiter	.....	1
Dressmaker	.....	7	House Repairer	.....	1
Smoother	.....	3	Postman	.....	1
Spinner	.....	5	Trout Minder	.....	1
Fruit Peeler	.....	2	Set Boy	.....	1
Fitter	.....	6	Timekeeper	.....	1
Reeler	.....	5	Student	.....	1
Drawer	.....	2	Builder	.....	1
Rover	.....	1			

CLASSIFICATION OF DISEASE AND RESULTS OF TREATMENT.

The classification followed in this report in respect of patients is as follows :—

(1) Patients under 15 years of age are classed as children, and those of 15 years and upwards as adults.

(2) Patients are classified according to the organ or parts affected as follows :—

(1) **Pulmonary Tuberculosis** (including tuberculosis of Pleura or Intrathoracic glands).

(2) **Non-Pulmonary Tuberculosis** ("Surgical Tuberculosis").

Patients suffering from both pulmonary and non-pulmonary tuberculosis are classified as Pulmonary cases.

(3) Patients suffering from pulmonary tuberculosis are divided into :—

(1) **Class T.B. Minus**, viz., cases in which Tubercle Bacilli have never been demonstrated in the sputum pleural fluid, faeces, ruine, etc.

(2) **Class T.B. Plus**, viz., cases in which the presence of Tubercle Bacilli has at any time been demonstrated.

Class T.B. Plus is further sub-divided into three groups, as follows :—

Groupe 1.—Cases with slight constitutional disturbance, if any, and in whom the obvious physical signs are of a very limited extent.

Groupe 2.—Cases which cannot be placed in Groups 1 and 3.

Groupe 3.—Cases with profound systemic disturbance or constitutional deterioration with marked impairment of function, and with little or no prospect of recovery.

(4) Patients suffering from non-pulmonary tuberculosis are classified according to the site of lesion, as follows :—

(1) Tuberculosis of bones and joints, i.e., "osseous."

(2) Tuberculosis of peritoneum, intestines, or mesenteric glands, i.e., "abdominal."

(3) Tuberculosis of other organs.

(4) Tuberculosis of peripheral glands.

Patients suffering from multiple surgical lesions are classified in one sub-group only, viz., in that applicable to the case which stands highest in the immediately preceding list.

In regard to Results of Treatment the following terms are used :—

"Quiescent."—Cases which have no symptoms of Tuberculosis, and no signs of Tuberculous disease, except such as are compatible with a completely healed lesion, and in whom the sputum, if any, is free from Tubercle Bacilli.

"Improved."—Cases short of "quiescent," in whom the general health is fair, and the symptoms of Tuberculosis have materially diminished.

"No Material Improvement."—All other patients who are alive.

It will be noted that the terms "arrested," or "recovered," or "cured," do not appear in these reports, and criticism has been made at times along these lines. The sanatorium being a residential institution such terms are inapplicable, and the use of them would be misleading and erroneous. The official interpretation of such terms explains the position clearly :—

"Arrested."—Cases in which the disease has been "**Quiescent**" for a period of two years.

"Recovered or Cured."—Cases in which the disease has been "**Arrested**" for at least three years.

It will therefore be seen that such terms are entirely out of place in a report of an institution where residence is necessarily measured in months, and not in years.

PULMONARY TUBERCULOSIS SECTION.

During the year 453 patients suffering from pulmonary tuberculosis received treatment and Table No. 6 indicates these patients, scheduled according to age, sex, and stage of disease.

Table No. 6.

	Stage of Disease.	Men.	Women.	Children	
Pulmonary Phthisis.	Class T.B. Minus	114	78	74	266
	Class T.B. Plus :—				
	Group I.	5	.....	.....	5
	Group II.	25	20	.....	45
	Group III.	86	49	2	137
	Total	230	147	76	453

During the same period 358 patients suffering from pulmonary phthisis were discharged.

The results of these cases are indicated in Table No. 7, scheduled under the various headings as already explained.

Table No. 7.

		DURATION OF RESIDENCE IN SANATORIUM.												
Condition upon Admission.	Condition upon Discharge.	Under 3 Months.			3 to 6 Months.			6 to 12 Months.			Over 1 Year.			Total
		M.	W.	Ch.	M.	W.	Ch.	M.	W.	Ch.	M.	W.	Ch.	
Class T.B. Minus	Quiescent	2	1	1	5	.....	6	6	1	8	2	2	10	44
	Improved	29	20	9	19	15	7	11	7	9	2	2	1	131
	N. M. Imp.	7	3	1	1	1	1	.....	.....	.....	1	.....	.....	15
	Died	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2
Class T. B. Plus—Group 1	Quiescent	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Improved	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	N. M. Imp.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Died	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Class T. B. Plus—Group 2	Quiescent	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
	Improved	3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	4
	N. M. Imp.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Died	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Class T. B. Plus—Group 3	Quiescent	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
	Improved	24	8	.....	22	13	.....	20	13	.....	12	3	.....	115
	N.M. Imp.	7	9	1	9	4	.....	9	4	.....	3	1	.....	47
	Died	16	10	.....	7	5	.....	5	3	.....	4	3	.....	53
	Total	89	51	12	64	38	14	52	28	17	25	12	11	413

Features worthy of enumeration are briefly :—

(1). That 46 patients admitted suffering from pulmonary phthisis left the sanatorium with no clinical evidence of the disease.

(2). That a further 250 patients in this class were discharged in clinically improved condition.

(3). That 62 patients derived no benefit from sanatorium residence.

(4). That 55 patients suffering from pulmonary phthisis died in the institution during the year. Relevant data in regard to these cases is available in a further section of this report.

SURGICAL TUBERCULOSIS SECTION.

During the year 65 patients were received for treatment of the "surgical" forms of tuberculosis, of these 33 were children.

Table No. 8 is an analysis of these cases under the headings of sex, age, and disposition of the lesion.

Table No. 8.

Disposition of Lesion.	Men.	Women.	Children.	Total.
Osseous	13	5	13	31
Abdominal	2	4	12	18
Other Organs	3	.....	2	5
Glandular	2	3	6	11
Total	20	12	33	65

It is of interest to note that with reference to the family history of these surgical cases there are positive histories in 25 of the total 65; in regard to the children the family history is positive in no less than 15 cases out of the 33 children admitted.

DISCHARGES.

In this section 60 patients were discharged of whom 40 were children. This is a record figure so far as children suffering from surgical disease in the sanatorium is concerned.

Table No. 9 gives a summary of the results of treatment in these cases:—

	DURATION OF RESIDENCE IN THE SANATORIUM.						
Type of Disease upon Admission.	Condition upon Discharge.	Under 3 Months.	Under Months.	6 to 12 Months.	Over 1 Year.	Total	
		M. W. Ch.	M. W. Ch.	M. W. Ch.	M. W. Ch.		
Osseous	Quiescent	.....	..... 2	..... 1	..... 2	5
	Improved	2 1 1	..... 1	..... 1	..... 1	7
	N.M. Imp.	1 .....	.....	2 .....	..... 2	5
	Died	.....	.....	.....	.....	.....
Abdominal	Quiescent	..... 1	..... 3	..... 1	..... 1	6
	Improved	1 5	..... 2 5	3 .....	.....	16
	N.M. Imp.	..... 1	..... 1	.....	.....	2
	Died	.....	.....	.....	.....	.....
Other Organs	Quiescent	.....	.....	.....	.....	.....
	Improved	1 .....	.....	1 2	..... 1	5
	N.M. Imp.	.....	.....	.....	.....	.....
	Died	.....	.....	.....	.....	.....
Glandular	Quiescent	.....	.....	1 .....	..... 3	4
	Improved	..... 2	..... 1 2	2 1 .....	..... 2	10
	N.M. Imp.	.....	.....	.....	.....	.....
	Died	.....	.....	.....	.....	.....
	Total	5 1 10	..... 4 13	9 1 5	..... 12	60

From a glance at this table it may be noted—

(1). that 15 patients of whom 14 were children suffering from the so called surgical tuberculosis were discharged in 1933 free from disease.

(2). that a further 38 were discharged as clinically improved, and

(3). that 7 such patients derived no benefit from sanatorium residence.

DEATHS.

56 Persons died in the Municipal Sanatorium during the year. Of these in one instance the cause of death was secondary new growths in the lung. Relevant data with regard to the remaining 55 are appended hereunder.

Duration or Residence Prior to Death.

	Days.			Months.				
	1-7	8-20	21-31	1-2	2-4	4-8	8-12	Over 12
No. of Cases	4	4	7	10	13	6	4	7

The age periods in years between which death occurred :—

	Up to 14 Years.	15-20 Years.	21-25 Years.	26-30 Years.	31-35 Years.	36-40 Years.	41-45 Years.	46-50 Years.	Over 50 Years.
No. of Deaths	2	6	15	7	10	10	4	1	.....

The sputum was positive in no less than 52 out of 55 fatal cases, thus again emphasising the paramount danger of waiting for a positive sputum report before arriving at a definite diagnosis. The family history was negative in 39 cases after very full enquiry. This may be explained by the theory that tuberculosis extracts its toll from virgin soil.

DURATION OF TREATMENT.

The average duration of residence of patients discharged from the sanatorium during the year 1933 was 137.9 days. The average duration of residence of the patients who died was 160.5 days, making the average duration of residence of all patients discharged from, or dying in, the Municipal Sanatorium 149.2 days. (Calculations kindly supplied by the Chief Tuberculosis Officer).

TREATMENT.

Good food, fresh air, regular living, and freedom from worry are the bulwarks of longevity ; these desiderata form also the groundwork of all modern sanatorium treatment. Just as in Biblical history he who builds his house upon the sand will surely see it fall, so he who attempts to treat tuberculosis (even with the most modern modes of therapy), and ignores the groundwork builds his house upon the sand and will surely see his endeavours end in disaster.

The treatment of tuberculosis is built on the basis of rest, graduated exercise, and on the philosophy of being content withal, of giving up, of doing without, of mastering desire, and of moving at all times within-bounds. And as a patient is philosopher enough to appreciate this and to follow out what his intelligence

discloses to him, he betters proportionately his chances against tuberculosis. It really means to "play safe." As an eminent tuberculosis physician has put it "no fool will ever be cured of tuberculosis."

The rules at the sanatorium are definite. A strict observance of them is demanded.

As a matter of interest I append the following :—

GENERAL TIME TABLE FOR GRADED PATIENTS.

7 a.m.	.....	Dress. Assist staff where indicated.
8 a.m.	.....	Breakfast. Assist staff where indicated.
9 a.m. to 9-30 a.m.	.....	Rest period ; notify Sister if you wish to report to doctor.
9-30 a.m.	.....	Doctor's round ; make any reports to doctor.
9-30 a.m. to 11-30 a.m.	.....	Graduated exercise as prescribed.
11-30 a.m. to 12-15 p.m.	.....	Rest period.
12-15 p.m.	.....	Dinner.
1 p.m. to 2. p.m.	.....	Rest period.
2 p.m. to 4 p.m.	.....	Recreation or graduated exercise as prescribed.
4 p.m. to 4-30 p.m.	.....	Rest period.
4-30 p.m.	.....	Tea.
4-45 p.m. to 6 p.m.	.....	Recreation ; notify Sister if you wish to report to doctor.
6 p.m. to 7 p.m.	.....	Rest period ; doctor's round ; make any reports to doctor.
7 p.m.	.....	Supper.
7 p.m. to 8 p.m.	.....	Recreation.
8 p.m.	.....	" At Bedside."
8 40 p.m.	.....	Prepare for bed.
9 p.m.	.....	Lights out. Silence.

Rest of the Lung is recognised to be our most effective means of arresting tuberculous disease, therefore the sooner—the more completely—and the longer it is applied the better. Unfortunately and it is depressing to relate that only about 5 per cent. of admissions to sanatoria are clinically suitable for the most effective means of resting or immobilizing the lung by artificial pneumothorax. Formerly this valuable means of therapy was only initiated when routine sanatorium treatment had failed ; now the pendulum has swung in the opposite direction and not infrequently artificial pneumothorax is applied in a clinically suitable case so soon as sanatorium treatment is initiated.

Gold-Salt Treatment is available for the radiologically bilateral flocculent case where immobilization is out of the question. A new preparation—myocrisine—is at present, by the courtesy of the manufacturers, being investigated; the exhibition of this drug does not appear to vary widely from that of sanocrysin in respect of the immediate sequelae. It is too early yet, however, to attempt prognostications as to eventual evaluation.

In the Municipal Sanatorium the routine use of **Tuberculin** is restricted to cases of the so called surgical types of the disease, and to children suffering from localized non-toxic pulmonary types. I am convinced of its value in these forms ordinary chronic progressive types in adults, in view of the widely conflicting reports of various investigators.

The routine treatment of the "surgical" patients is as conservative as possible ; frequently it is combined with tuberculin and light therapy, natural and artificial. Serotherapy is also occasionally utilized and appears to be especially indicated in those patients in whom the disease is progressing satisfactorily, but very slowly, the serum acting purely as an adjuvant.

REPORT OF THE X-RAY THEATRE UNIT.

One thing which is obvious with the greater use of radiography now available in the Sanatorium is the amount of gross disease which may be present in the lungs, without giving rise to signs or symptoms sufficient to arouse misgiving on the part of patient or medical attendant.

A grave condition may be quite compatible with the preservation of normal or almost normal working capacity. This "silent disease" is doubtless one of the factors accountable in the long run for the large proportion of advanced cases received for treatment, as by the time the incapacity has directed attention to itself the infection has progressed into declared disease.

These few words illustrate in part the paramount necessity of a highly skilled and efficient radiograph department in hospitals dealing with chest diseases.

As will be seen from the appended table, 86 patients received treatment by rays from sources of artificial light, involving some 2,053 treatments. Such patients comprised in the main "surgical" cases. It has been noted in this sanatorium that abdominal and cutaneous cases respond exceptionally favourably to actino-therapy; it must however, not be forgotten that the exhibition of artificial light is only an adjunct to other sanatorium measures.

SUMMARY OF WORK.

Artificial Pneumothorax :—

Number of patients undergoing Artificial Pneumothorax Treatment	19
Number of cases "inducted"	11
Number of "refills"	209

Operations :—

Abdominal paracentesis	8
Aspiration of Abscesses (various)	23
Aspiration of Pleural Effusions	12
Aspiration of Empyemata	4
Incisions	25

Plaster of Paris Applications :—	29
----------------------------------	----

Special Therapies :—

Number of patients treated with Gold compounds	20
Number of Injections	152
Amount of Gold utilized	Grammes 54.25
Number of patients treated with Jacobsen's Solution	15
Number of Injections	540
Number of patients treated with Tuberculin	27
Number of Injections	572
Number of patients treated with Ruppel's Serum	3
Number of Injections	90

X Ray :—

Number of skiagrams filmed	586
Number in respect of :—	
Pulmonary Disease	401
Surgical Disease	158
Barium Examinations	23
Urological Examinations	4
Number of Screening Examinations	597

Actinotherapy :—

Number of patients treated by Ultra Violet Light	.....	51
Number of Treatments	.....	1,216
Number of patients treated by Radiant Heat	.....	35
Number of treatments	.....	837

Dental Report :—

The following operations have been carried out by the Visiting Dental Surgeon :—

Fillings	.....	157
Dressings	.....	608
Extractions	.....	161
Total	.....	926

LABORATORY.

In conjunction with the X-Ray-Theatre department, laboratory work has been prosecuted diligently. The increased attention paid to sputum examination has revealed positive findings in 10 per cent. cases, which had previously on two or more occasions been reported as “negative”—a highly important factor in itself.

A synopsis of the work performed is appended :—

Sputum Examinations :—

Sputum specimens examined for admission	361
Sputum specimens re-examined	.....	212
Sputum specimens examined for discharge	.....	109
Total	.....	682

Of the admission specimens 163 were “positive” on bacteriological examination and 198 were “negative”; of the discharge specimens 63 were found to be “positive” and 46 “negative.” The remaining patients were sputum-free upon discharge from the sanatorium.

Blood Examinations :—

Arneth Blood Counts	.....	200
Blood Sedimentation Rates ascertained	.....	210
Cell Counts	.....	15
Special	.....	8

Urine Examinations :—

Renal Efficiency Tests	.....	24
Estimations of Gold-Salt Excretion Rates	.....	404
Estimation of “P H” of Urinary Excretions	.....	574
Various	.....	86

In addition to the above a large amount of routine examinations, throat swabs, etc., were performed from day to day. It has now become a routine procedure to examine throat swabs for the presence of Tubercle Bacilli in respect of children, from whom it is impossible to obtain specimens of sputum.

The following bacteriological work of a specialized nature has kindly been performed by the City Bacteriologist, in respect of the patients under my charge. We are greatly indebted to this officer for his prompt and exact reports, which are most valuable when treatment is being considered.

Blood Examinations.		Urine Examinations.					Throat Swabs.	Blood Counts.
Wassermann + +	Wassermann —	TB +	TB —	Blood	Pus.	Neph- ritis.		
14	241	5	3	1	4	2	16	3

Total Special Examinations performed 289

OPEN AIR SCHOOL—PRINCIPAL TEACHER'S REPORT.

					Boys.	Girls.
Average Daily Attendance (Open Air School)				.....	28.6	22.5
" " " (Surgical School)				.....	15.5	11.9
" " " (All Pupils)				.....	79	

By recommendation of the inspector more attention was given to the teaching of the vital subjects in the school curriculum and to handwork, particularly in the surgical school. In the senior standards we confined ourselves to the teaching of crafts, which could be practised by the children when they left school—rug-making, ornamental raffia work and leather work. Four large wool rugs in design were completed, and the senior girls have finished a tea cloth and set of bed linens in drawn thread work and embroidery.

In the general report of 19th October, our assistant teacher is rated as " Highly Efficient " ; this award raises our school from Class B to Class A.

CONCLUSION.

It is interesting to note that the French Academy of Medicine has come down on the side of the sanatorium. Discussions at the Academy last year on the place of the sanatorium in the treatment of tuberculosis led to the appointment of a commission of enquiry, composed of the highest authorities. The commission's conclusion was unanimous in finding no justification for regarding ambulatory and other methods of therapy as competitors of sanatorium treatment. **"Sanatorium treatment, consisting essentially of methodical aeration and rest, supervised in a closed establishment situated in a favourable climate maintains the value with which experience has credited it, and remains the most useful supplement to other treatments whose full effect is thereby assured."** The commission goes on to recommend the sanatorium for those who are not wealthy as being equally necessary from a prophylactic point of view as from a therapeutic. The sanatorium should be the centre where the patient can benefit simultaneously from all the modern and highly technical methods of therapy.

The value of the sanatorium, however, depends to a very considerable extent, upon the whole-hearted co-operation of the family doctor, what then is the justification for the yearly repeated criticisms of the type of case being admitted to sanatoria. It would appear to lie in the fact that the doctor's intervention and advice is only sought when the lesion or infection is already established and that broadly speaking, he appears to be satisfied with this position. He is perhaps, disposed to cope with physical misfortunes as they occur and to let others seek to prevent them if they can.

Here we have two separate issues—one, prevention of disease, the other, treatment of the individual. As for the prevention of disease, it has been suggested and recommended that "carriers" should be temporarily isolated in sanatoria. It is true that "carriers" are dangerous and especially so to young children, but judging from many advanced cases admitted to this sanatorium it appears to me that many "carriers" are only admitted when their field of malign influence is already restricted by special infirmity and when they have done all the harm they can. Further, can a period of temporary residence in a sanatorium be a matter of real importance in the prevention of a chronic disease like pulmonary phthisis?

As for treatment of the individual, sanatorium residence is undoubtedly invaluable for some cases, useless for some, and actually harmful to others. A careful selection of cases and final discharge of the unsuitable ones after a month's trial would save a great deal of trouble and money. I am afraid that not a few of the patients admitted to the City sanatorium derive but a little temporary benefit from residence. In many instances the disease has advanced to a point when active therapeutic measures are out of the question, and apart from the sentiment of the subject the money so spent is wasted. Again, a certain proportion of patients find sanatorium routine and discipline irksome; such patients derive no benefit; the very irksomeness reacts to their disadvantage and they upset the trend of the institution generally. Here again the money spent is wasted. Of recent years I have made a point of not actually encouraging, beyond a little sound advice, such patients to stay.

Fortunately an increasing proportion of our cases, however, are such as will derive benefit and it is hoped that this proportion will steadily increase.

Children.—The number of children admitted appears to be increasing each year. During 1933 the number rose to 109 and in consequence a number of additional beds in the convalescent female section were provided for girls. A certain amount of unavoidable overcrowding occurred, but I am informed the advantages out-weighed the disadvantages.

Pulmonary phthisis in children is a serious disease and recently a considerable amount of correspondence has been published under this heading. It has been

stated "that in Canada ninety-five out of every hundred children infected with Tubercle Bacilli receive their infection from adults, with whom they have come in contact and who are suffering from tuberculosis, often undetected or erroneously considered as cured." In France the corresponding figure is quoted as eighty-two. The prevention of intra-thoracic tuberculosis therefore in young children depends on shielding them from contact with phthisical adults, and this brings us back to the "carrier" problem already mentioned.

The following extract is worthy of serious attention at the present time :—

Prognosis in Children with Open Pulmonary Tuberculosis.

"S. Hasle (*Ugeskrift for Læger*, December 22nd, 1932, p. 1231) has investigated the fate of children suffering from open pulmonary tuberculosis and treated in a Danish Sanatorium between 1911 and 1926. Of the 496 sputum-positive children, fifty-six could not be traced. About two-thirds of all the children were girls. It was found that five years after discharge 282 (64 per cent.) had died. Of the survivors, 121 (28 per cent.) were well and thirty-seven (8 per cent.) were still ill. About a third of all the children had died within a year of the first discovery of tubercle bacilli, their average length of life after this discovery being only seven months. Five years after discharge the average duration of life of the 282 children who died was 20.2 months, as reckoned from the date of the first discovery of tubercle bacilli. This average was only 18.2 months for the girls, whereas it was 27.7 for the boys. Hasle points out that not only were the girl patients twice as numerous as the boys, but they also succumbed to the disease more quickly. A classification of the children in three age groups (1 to 7, 7 to 12, and 12 to 16 years) showed that in the oldest group there were as many as 102 girls and thirty boys. The average duration of life of the girls in this group was remarkably short—a finding which tallies with the common clinical observation that at puberty the resistance of girls to tuberculosis is very feeble.

"The practical lesson the author draws from his statistical analysis is that, in view of the bad prognosis for children with open pulmonary tuberculosis, skilled treatment should be provided as early as possible."

Some discussion has arisen lately in regard to the incidence of tuberculosis disease in infants. Apart from direct human infection per contact there is little doubt but that raw milk is frequently the vehicle of infection.

The following conclusions published by the Medical Research Council tend to confirm this view :—

"All the cases under one year of age with intestinal ulcers had been fed on cow's milk."

"Babies who were breast-fed for nine months or till death, if that occurred before that time, suffered less from abdominal tuberculosis than infants fed on cow's milk. This was particularly noticeable in the first year of life, and also to a lesser extent in the second."

"The greater number of primary abdominal lesions were found in the second year of life, that is, at the period when children are consuming large amounts of raw milk."

"In infants in the first year of life only one human and no bovine infections were found in babies breast-fed for nine months or till death, if this occurred earlier, but in those fed on cow's milk, two human and fourteen bovine infections were found."

"The high incidence of the bovine type of infection in the abdominal cases is doubtless due to the ingestion of infected milk, as there was a greater incidence of this type of infection in bottle-fed babies and also for the six months to two year age-groups, when the children were consuming large amounts of milk."

"The highest percentage of infections with bovine strains occurred in the second year of life, that is, at the period when children consume large amounts of raw milk."

The natural corollary is, of course, to insure that the milk supply of the country is above suspicion. This may be attained by making it compulsory in Northern Ireland, that only Grade A (T.T) milk is sold. Pasteurisation will also guarantee a pure milk supply, but I prefer to start with the guaranteed and clean article rather than to purify it afterwards. As has been suggested by a colleague perhaps the elixir be a pasteurised Grade A (T.T.) supply.

“CASUAL FACTORS IN TUBERCULOSIS.”

Dr. F. C. S. Bradbury, a tuberculosis officer of the Lancashire County Council has made an intensive investigation of the casual factors in tuberculosis and of the associated conditions prevailing in Tyneside. The conclusions reached from a statistical examination of the data obtained were submitted to the Medical Research Council, and a full report has been issued.

As the incidence of Tuberculosis and the consequent death rate on Tyneside have to some degree been attributed to the high proportion of the Irish to the total population in that area, and as many of the factors enumerated are not unknown in Belfast, I feel I cannot do better than take the liberty of copying a brief synopsis of this report.

I am indebted to the Editor of the “British Medical Journal” for his kind permission to republish the following extract, which originally appeared in his journal:—

“The report is founded on an investigation of 2,963 families and 1,033 tuberculous persons, or their medical records, in the Tyneside towns of Jarrow and Blaydon. These two centres were chosen because, whilst being very similar towns, they provide a contrast in the matter of their tuberculosis statistics. Each has a population of about 32,000, and shows a large and approximately equal amount of overcrowding according to the 1921 census, yet the tuberculosis death rate of Jarrow is about 2 per 1,000, while that of Blaydon is in the region of only 1 per 1,000. The crude general death rate of Jarrow in 1929-30 was 14.9 per 1,000; for Blaydon the figure was 9.5, and for England and Wales 12.4. In 1929 and 1930 the deaths from tuberculosis accounted for 14.2 per cent. of all deaths in Jarrow, for 9.3 per cent. in Blaydon, and for 7.5 per cent. in England and Wales. The Jarrow figures were similarly high in respect of the combined deaths from respiratory diseases other than tuberculosis, and for infantile mortality. The inquiry began with a house-to-house visitation in the whole of the central ward of Jarrow, where the housing conditions were worst and tuberculosis was most prevalent. A survey of the results so obtained enabled the remainder of the inquiry to be planned upon the most profitable lines. It was found necessary to reduce the extent of the inquiry by visiting every fifth house instead of each one. The main conclusions reached are detailed as follows.

INFLUENCE OF POVERTY.

“Poverty was judged in terms of income per head, families having an average weekly income of less than ten shillings a head being classed as “poor,” and others as “not poor.” This limit, although chosen arbitrarily, had certain advantages, one of which was that the numbers in each class proved to be approximately equal. The principal differences between these two classes appeared as the degrees of relative underfeeding, overcrowding, and size of family. It was found that the features which characterized poor families also characterized tuberculous families. Poverty appears, therefore, as an important fundamental cause of tuberculosis in the Tyneside area, and the principal results of poverty, which are particularly concerned in leading to this disease, are overcrowding and undernourishment. The statistics indicated also that although tuberculosis might lead to poverty through incapacitating a wage earner, this explanation of the greater poverty of tuberculous compared with non-tuberculous families was subsidiary to the fact that poverty was definitely a cause of tuberculosis. It is shown that there was in Jarrow a considerably higher percentage of poor families than in Blaydon; in the latter town there are many married miners living rent free in houses provided by the colliery owners. In short, the chief element of the association is that poverty causes tuberculosis, rather than that tuberculosis leads to poverty.

OVERCROWDING.

“A definite statistical association was found to exist between overcrowding and tuberculosis in the areas studied. Moreover, the overcrowding preceded the onset of the disease, and it seemed highly probable that no third factor was required to link the two. The association was thus direct. Support was also given by the inquiry to the hypothesis that, if overcrowding causes tuberculosis, it presumably does so by leading to a lowered resistance to disease in general among persons living under such conditions. Another hypothesis studied was that, if overcrowding leads to tuberculosis, the presence of a case of this disease in a family should lead to the occurrence of a second case more often in overcrowded than in non-overcrowded families. It is admittedly difficult to be certain that an apparently greater incidence of multiple tuberculosis in overcrowded families is not due to the greater number of persons exposed to risk in these households. Figures are given, however, which present some evidence of an association between overcrowding and the occurrence of multiple tuberculosis, and suggest that such occurrence increases as the degree of overcrowding increases. It would

follow that, if overcrowding leads to tuberculosis, a reduction in the former over a period of years should lead to a reduction in the incidence of the disease in a given area. The figure obtained appears to indicate that this is the case, and that such a third factor as poverty is not necessarily concerned. In the case of Jarrow, it is concluded that the evil of overcrowding is accentuated by the large proportion of tenement dwellings which the town contains. These have few and small rooms, and are in many cases of a very unsatisfactory design.

UNDERNOURISHMENT.

"In this connexion the foodstuffs specially studied were meat, butter, fresh milk, and bread. It was demonstrated that there was significantly more undernourishment among tuberculous families, both in Blaydon and in Jarrow. Relatively more bread was consumed, possibly as a means of compensating for a deficiency of the other foodstuffs. Undernutrition was indicated as a definite cause of tuberculosis. It resulted from poverty rather than from a faulty choice of food. Figures showed that tuberculous families consumed less meat, butter, and milk per head than the non-tuberculous families. The greatest deficiency was found in the case of milk, where the amount used in tuberculous households was only 57.3 to 71.7 per cent. of the amount used in non-tuberculous households. Considerations of relative expense and it is deducible therefore, from the fact that this was not the case, that milk is regarded more as a luxury than as a food. The shortage of milk was even more marked in the case of the larger families, containing the greater relative proportion of children, and it is concluded that the data are quite consistent with the assumption that the inadequacy of milk in the diet is a contributory cause of tuberculosis. Another conclusion from the evidence was that shortage of milk had possibly more important aspects than mere undernourishment, and that, perhaps, vitamins, enzymes, or some unknown constituents of fresh milk had a considerable bearing on the body's defences against tuberculosis. This would support the view of the value of milk as a prophylactic.

HOUSING.

"It was shown that insanitary dwellings were more frequently occupied by tuberculous families in both Jarrow and Blaydon, but there was no evidence directly pointing to this being a contributory cause of the disease, although the results were consistent with this hypothesis. The tenement dwellings were demonstrably more insanitary and more overcrowded than separate dwellings. On the data it appeared that tenement dwellings, contributed to the prevalence of tuberculosis by reason of the greater overcrowding in them, and not in consequence of lack of sanitation, nor of the greater poverty of their inhabitants. No evidence was obtained of house-to-tenant infection being an occurrence of any importance in the spread of tuberculosis.

RACE.

"The study of racial factors was narrowed down to a comparison of Irish and English families, the classification being based on the place of origin of the father of the family. There emerged a relatively high incidence of tuberculosis in the Irish, and possible causes of this are discussed in detail on the basis of the statistical evidence. The evidence indicated that the admittedly inferior environmental conditions of the Irish families would not wholly explain the greater prevalence of tuberculosis among them. Moreover, it appeared that the racial factor which led to the higher incidence was a relative want of immunity to the disease. It is shown that the augmentation of the tuberculosis death rate of Jarrow caused by the presence of a large proportion of Irish in the town is a factor of considerable importance, being estimated at 31 per cent. of the death rate which would prevail in the absence of the Irish. It is considered that this factor is probably more important as a cause of the high incidence of tuberculosis in the area than many of the other factors which have been studied.

GENERAL CONCLUSIONS AND RECOMMENDATIONS.

"In addition to the foregoing conclusions the investigation brought to light the important fact that the supervision exercised by maternity and child welfare clinics was definitely a factor of importance in the suppression of tuberculosis. Confirmation was obtained of the prevailing local opinion that a peculiarly rapid type of the pulmonary form is commonly met with in the area. Two of the principal factors concerned in this peculiarity are the relatively high proportion of susceptible persons in the population, and the unfavourable housing conditions, which prevent the proper care of persons before or after a period of treatment in a sanatorium. Unfavourable environmental conditions in general are considered to be an important cause of the high incidence of pulmonary tuberculosis in children.

"While the report as a whole does not bring to light any predisposing cause of tuberculosis which can be regarded as new or hitherto unknown, it does appear to give the opinions already held concerning the causation of tuberculosis a more scientific value by reason of the experimental and statistical evidence which arises from the investigation. It is urged that

the building and use of tenement dwellings should be strictly controlled, particularly in regard to the size and number of rooms, the number of persons who may occupy them, and the general sanitary conditions of the dwellings. These matters are already the subject of special regulations under the recent Housing Acts. It appears desirable that something should be done to improve the defences of poor families against tuberculosis by the issuing of information by local authorities on the subject of better housekeeping—particularly in the matter of the most profitable methods of providing adequate and balanced diets at the cheapest possible rates. The use of fresh milk, especially in families containing children, should be regarded as a daily necessity in poor families, where the dietary is likely to be lacking in other fresh constituents. Maternity and child welfare clinics should be rendered even more attractive than they are at present, and their highly qualified staffs must make full use of the powers they possess. The aim should be the fullest possible liaison between these and the tuberculosis departments. The numerous conditions which are shown in the report to be associated with tuberculosis suggest that collective action can deal with the disease at the source, whereas the ability of the individual to protect himself against it is more limited. The policy of the National Association as regards active propaganda to educate the public in matters pertaining to tuberculosis appears a very necessary and valuable means of combating the disease."

ACKNOWLEDGEMENT.

I have much pleasure in acknowledging the very cordial encouragement and support accorded me at all times by the Chairman and Members of the Tuberculosis Committee.

To the Medical Superintendent Officer of Health I tender my best thanks for his ever-present invigorating co-operation and expert assistance.

Once more it is my pleasant duty to pay tribute to the generous and loyal service of an efficient and conscientious staff. To my medical colleagues and to the members of my nursing staff, who bear the brunt of the day and who have at all times carried out cheerfully and conscientiously their exacting duties, I acknowledge my appreciation. The clerical staff have given of their best throughout a very onerous year, and I have to thank particularly the steward clerk for relieving me of much routine work and freely placing his services at my disposal.

I am,

Your obedient servant,

P. S. WALKER.

MUNICIPAL HOSPITAL FOR TUBERCULOUS CHILDREN, BELFAST

The Report of the Visiting Surgeon for the Year Ended 31st December, 1933

To the Medical Superintendent Officer of Health.

Dear Dr. Thomson,

I beg to submit my report on the Clinical work at Graymount Hospital, for the year 1933, and a survey of the patients discharged in the previous years since the opening of the hospital in 1921.

Owing to the necessity for several years' treatment, I find that, with fifty-eight beds, slightly less than twenty-five per cent. of the patients can be discharged each year. This results in a small turn-over, but the longer I work with this type of case the more I am convinced that time is the most important factor in successful treatment. In most cases rapid improvement follows admission to hospital, and the patient presents a healthy appearance which is a testimonial to the effects of good food, fresh air and rest, but gives little or no indication of the stage of the bone disease.

Early discharge, at least in the case of the poor people with whom we are dealing, inevitably leads to recurrence. Even with the prolonged periods of treatment, shown in this report, the disease recurs in some cases, and any change should be rather towards increase than decrease of time in hospital. I mention this to show the necessity for increased accommodation, but I need not labour the point, as I believe it is well known to all concerned in the management of the hospital.

Twelve new patients were admitted during 1933 and twelve discharged, one by death, ten with disease arrested and one improved. Fifty-six patients remained in hospital on the 1st Jan., 1934, twenty-seven cases of spinal disease, twelve cases of hip joint disease, ten cases of tuberculosis of the knee joint, two of tuberculosis of the ankle joint and five with multiple tuberculous lesions.

In the survey of all the patients discharged up to the present, omitting a few who were removed by the parents and a few non-tuberculous cases, there are one hundred and seventy one cases to be considered. One hundred and thirty-eight or seventy-eight per cent. of these had their disease arrested.

As, however, the term "disease arrested" does not convey any idea of the condition of the patient in regard to function and deformity, I have included a few notes on the condition of each patient on discharge or at subsequent inspection. Three cases were improved, three unimproved, three had relapsed and six could not be traced.

Twelve deaths occurred in hospital, a mortality of seven per cent. Six patients died after discharge, bringing the mortality up to ten and a half per cent.

The causes of death in hospital were, meningitis in six cases, toxæmia of multiple tuberculosis in three, pressure on the cervical cord in one, amyloid disease in one, and bronchitis and cardiac failure in one.

The mortality was highest in cases of spinal disease and multiple tuberculous lesions.

Out of forty-two spinal cases six died in hospital, a mortality of 14.3%, and two died after discharge bringing the mortality up to nineteen per cent. The first figure includes one case which was admitted suffering from meningitis and died five days later.

Of twenty-three cases of multiple tuberculous lesions four died in hospital, a mortality of 17.4% and two after discharge, a total mortality of twenty-six per cent.

In the remaining cases only two deaths occurred, both from meningitis, following in one instance tuberculosis of the knee joint, and in the other tuberculosis of the ankle joint.

Of the twenty-nine cases of spinal disease shown as "disease arrested," twenty-five came for inspection and were found to be well. Twenty-three had a negligible deformity or none at all, and two were markedly deformed but well. Four wrote to say they were well.

In the series of forty hip joint cases shown as "disease arrested" twenty-one came for inspection and were found to be well, although in three cases adduction had occurred. Eight wrote to say they were well. Of five patients who did not come for inspection, four had already been inspected over five years after discharge and one over three years after discharge, and were all then well. Six of the cases were only discharged during 1933. Twelve of these patients had full mobility in the hip joint and two had ninety degrees of movement.

There were twenty-five cases of tuberculosis of the knee joint in whom the disease was arrested, in two cases by amputation. Fourteen of these cases came for inspection and were found to be well, six with full movement, five with a little movement and three with stiff knees. Five others were visited or wrote to say they were well and three were discharged during 1933.

I have the honour to be,

Your obedient Servant,

H. P. MALCOLM.

ADMISSIONS DURING 1933.

Remained in Hospital on 1/1/33	.....	.....	.....	56
Admitted during 1933	.....	.....	.....	13
Discharged during 1933	.....	.....	.....	13
Remained on 1/1/34	.....	.....	.....	56

The following cases were admitted :—

Spinal Caries	.....	.....	.....	.....	5
Hip Joint Disease	.....	.....	.....	.....	3
Tuberculosis of Knee	.....	.....	.....	.....	2
Multiple Lesions	.....	.....	.....	.....	1
Multiple T.B and Congenital Disease	.....	.....	.....	.....	1
Re-admissions after temporary discharge for Diphtheria	.....	.....	.....	.....	1
Total					13

DISCHARGES DURING 1933.

Thirteen patients were discharged, including one temporarily discharged on account of Diphtheria and re-admitted.

Spinal Caries					
Died of Meningitis	.....	.....	.....	.....	1
Hip Joint Disease					
Disease Arrested	.....	.....	.....	.....	5
Improved	.....	.....	.....	.....	1
Tuberculosis of Knee Joint					
Disease Arrested	.....	.....	.....	.....	3
Tuberculosis of Ankle Joint					
Died of Meningitis	.....	.....	.....	.....	1
Abscess of Tibia					
Disease Arrested	.....	.....	.....	.....	1
Temporary Discharge	.....	.....	.....	.....	1
Total					13

Particulars of the cases discharged are given in the following tables.

SUMMARY OF ONE HUNDRED AND SEVENTY-ONE CASES
TREATED AND DISCHARGED.

Situation of Disease	Disease Arrested	Im- proved	Unim- proved	Relapsed	Died in Hospital	Died Later	Not Traced	Total	Remarks
Spine	29	1	2	6	2	2	42	*Two by amputation *One by amputation
Hip	40	1	1	1	.....	2	1	46
Knee*	25	1	.....	.....	1	.....	1	28
Foot*	10	.....	.....	.....	.....	.....	.....	10
Ankle	8	.....	.....	.....	1	.....	1	10
Elbow	1	.....	.....	.....	.....	.....	.....	1
Hand	2	.....	.....	.....	.....	.....	1	3
Glands	2	.....	.....	.....	.....	.....	.....	2
Sacro-iliac	1	.....	.....	.....	.....	.....	.....	1
Rib	1	.....	.....	.....	.....	.....	.....	1
Tibia	2	.....	.....	.....	.....	.....	.....	2
Bursa	1	.....	.....	.....	.....	.....	.....	1
Multiple Abscesses of soft tissue	1	1	
Multiple	15	1	1	4	2	23	
	138	3	3	3	12	6	6	171	

SPINAL CARIES.

Died 1

Reg. No.	Age on Admission.	Sex.	No. of Days Treated	Condition on Admission.	Cause of Discharge.	Condition on Discharge.
310	1 year	F.	5	Bad. Pyrexia and Bronchitis	Died.	Meningitis.

HIP JOINT DISEASE

Disease Arrested 5
 Improved 1

Reg. No.	Age on Admission.	No. of Days Treated.	Sex.	Condition on Admission.	Cause of Discharge.	Condition on Discharge.	Joint Movement on Discharge.
240	8 yrs., 7 months	1,223	F	Poor. Hip Rigid in abduction. One sinus	Disease Arrested.	Health good. Hip ankylosed midway between abduction and adduction $\frac{1}{2}$ inch shortening	None
268	5 yrs., 10 mths.	732	M	Poor. Spasm and rigidity of hip. No necrosis	Disease Arrested	Excellent	Full Movement
258	13 years	921	F	Good. Hip stiff, without deformity. Abscess after admission	Disease Arrested	Excellent. Hip ankylosed midway between abduction and adduction, with 1 inch shortening.	None
276	10 years	654	M	Good. Hip stiff	Disease Arrested	Excellent. No shortening	Full Movement
156 & 269	2 yrs., 6 months	1,852 & 851	M	Poor. Femur dislocated Abscess and sinus	Disease Arrested	First discharged temporarily on account of diphtheria. Next as "disease arrested." Hip ankylosed in straight position with 2 inch shortening Dislocation reduced	None
241	8 years	1,429	M	Very bad. Two septic incisions in hip. Limb adducted and 1 inch short	Improved	Health good. Sores healed exception with of one quiet sinus. Hip ankylosed in adduction	None

TUBERCULOSIS OF KNEE JOINT.

Disease Arrested 3

Reg. No.	Age on Admission.	Sex	No of Days Treated	Condition on Admission	Cause of Discharge.	Condition on Discharge.	Joint Movement on Discharge.
223	5	M	1,543	Forty-five degrees flexion with subluxation.	Disease arrested.	Good. Knee, straight and stiff, subluxation greatly improved $\frac{1}{2}$ inch shortening.	None.
278	9 yrs. 2 mths.	M	573	Abscesses and necrosis, internal condyle.	Disease arrested.	Good. No deformity.	Full movement.
246	3 yrs., 6 mths.	F	1,295	Forty-five degrees flexion Subluxation multiple sinuses.	Disease arrested.	Excellent. Knee straight and healed, $\frac{1}{2}$ inch shortening.	None.

TUBERCULOSIS OF ANKLE JOINT.

Died 1

Reg. No.	Age on Admission.	Sex.	No. of Days Treated.	Condition on admission.	Cause of Discharge
290	3 yrs. 6 months	M	188	Swelling of ankle and two sinuses	Developed Meningitis and Died.

ABSCCESS OF TIBIA.

Disease Arrested I

Reg. No.	Age on Admission.	Sex.	No. of Days Treated.	Condition on Admission	Cause of Discharge	Condition on Discharge	Joint Movement on Discharge.
249	8 years	M	1,656	Poor. Cavity in upper end of shaft of Tibia	Disease Arrested	Good. Tibia healed.	Full Movement.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TILL 31st DECEMBER, 1933.

184

Reg. No.	Sex.	Age on Admission	Number of Days Treated.	Date of Discharge	Date of Last Inspection.	Situation of Disease.	Condition at Last Inspection—Remarks.
5	M	6 years	363	31/5/22	.....	Thoracic Spine	Incurable deformity. Not followed up.
34	F	6 years	63	16/2/22	.....	Cervical Spine.	Died. Pressure on cervical cord.
25	F	4 years 2 months	671	11/7/23	14/10/33	Upper Thoracic Spine	Perfectly well. No deformity.
14 and 48	M	7 years	762	1/7/23	28/11/31	Lumbar Spine	Was then quite well. In Dec., 1933 he wrote to say that back has never given him any trouble, but he has had cervical adenitis. Died in Whiteabbey Sanatorium in Nov., 1929.
21	M	1 year 10 months	1,212	21/11/24	.....	Upper Thoracic Spine	Quite well, with slight deformity which has not increased.
43	F	10 years	1,005	12/11/24	14/10/33	Dorso-Lumbar Spine	Quite well. No deformity.
62	F	15 years	866	12/11/24	14/10/33	Lower Thoracic Spine.	Quite well. No deformity.
81	M	11 years, 9 months	401	7/5/24	14/10/33	Lumbar Spine	Died of Meningitis.
101	M	6 years, 6 months	20	6/2/24	.....	Lumbar Spine	Quite well. Small kyphos unchanged and unnoticeable.
35	F	4 years, 6 months	1,223	28/4/25	14/10/33	Lumbar Spine	Died Jan., 1929, disease active.
87	F	14 years	689	21/7/25	.....	Cervical Spine	Quite well. No deformity.
52 & 148	M	2 years	1,439	13/4/26	14/10/33	Lumbar Spine	Temporary discharge 1923 for infectious disease. Discharged 1926 as "disease arrested." Recurrence and re-admission 1927. Again discharged as "disease arrested" in 1931. Now disease remains arrested with moderate deformity. In 1933 reported to be keeping well.
85, 96 & 191	M	3 years	35, 872 & 626	13/9/23, 4/5/26 & 5/6/31	28/11/31	Lower Thoracic Spine	On 28/11/31, marked deformity but good health. In 1933 re-ported to be keeping well.
49	M	5 years, 8 months	1,569	26/6/26	*	Lower Thoracic Spine	*In Dec., 1933 reported to be worse.
89	M	6 years	1,163	6/11/26	.....	Lumbar Spine	Died. Meningitis.
145	M	2 years, 6 months	200	19/8/26	14/10/33	Lower Thoracic Spine	Quite well. No deformity.
111, 132 & 151	F	3 years	1,217	30/2/27	15/10/33	Upper Thoracic Spine	Quite well. Slight deformity upper dorsal region, compensated unnoticeable.
93 & 149	F	4 years	1,405	6/9/27	.....	Spine	Removed by parents before disease arrested.
169	F	5 years, 6 months	397	28/9/27	14/10/33	Lower Thoracic Spine	Quite well with moderate dorsal kyphos, not noticeable when dressed. Grandmother says, "As strong as a horse."
79 & 178	M	4 years	1,356 & 690	5/11/28	28/11/31	Lower Thoracic Spine	Deformity then recurring. Could not be traced in 1933.
97, 127 & 150	M	3 years	1,773	22/5/29	14/10/33	5th to 12th Thoracic Vertebrae	Perfectly well. No deformity. Working.
2	F	5 years	2,950	23/6/29	.....	Upper Thoracic Spine	Discharged with disease arrested. Cannot be traced.
139	M	5 years, 6 months	1,485	13/9/29			

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge	Date of Last Inspection	Situation of Disease.	Condition at Last Inspection.	Remarks.
164	F	5 years	1206	17/10/29	.....	Lumbar Spine	Disease recurred and patient is in Whiteabbey Sanatorium	
180	M	8 years	928	21/7/29	14/10/33	Lumbar Spine	Perfectly well. No deformity.	
256	M	2 years, 7 months	20	11/12/30	.....	Mid-Thoracic Spine	Died.	
197	F	12 years	1,132	19/11/30	25/11/33	Lower Thoracic Spine	Incurable deformity on admission. Now well, but still deformed	
190	M	9 years	1,158	4/8/30	12/12/31	Lumbar Spine	Then quite well with no deformity. Did not attend since then, but in Dec., 1933 reported to be well and looking for work.	
176	M	3 years	1,419	22/10/30	11/1/34	Lumbar Spine	Quite well, with no deformity	
173 &								
160	M	2 years, 6 months	1,518	5/12/30	12/12/33	Lower Thoracic Spine	Quite well. Slight kyphos. No disability.	
153	M	8 years	1,646	19/9/30	14/10/33	Lower Thoracic Spine	Quite well, with slight kyphos	
245 &			1,464 &				Did not come for inspection. Visiting nurse reported that she	
147	F	5 years	268	19/11/30	..... *	Lumbar Spine	was keeping well on 20/2/34	
88	M	3 years	2,694	11/2/31	14/10/33	Cervico-dorsal Spine	Quite well. Moderate kyphos Cervico-dorsal region, compensated	
205	M	8 years	1,367	19/11/31	16/10/33	Lumbar Spine	Quite well. No deformity	
162	M	3 years, 7 months	1,698	21/2/31	.....	Mid-Thoracic Spine	Died. (Paraplegia, Pyuria).	
192 &			606 &					
228	M	2 years, 9 months	1,032	26/3/32	21/10/33	Upper Thoracic Spine	Quite well. Small angular kyphos. Compensated	
199	M	7 years, 5 months	1,273	28/5/32	21/10/33	Lumbar Spine	Quite well. No deformity	
201	F	12 years	1,714	17/8/32	21/10/33	Lumbar Spine	Spine quite well. Small unnoticeable kyphos. Has indigestion	
230	F	12 years	1,170	20/8/32	16/10/33	Lower Thoracic Spine	Quite well. Small kyphos causing no deformity	
159 &			1,145 &					
226	F	3 years	1,261	25/8/32	*	Lower Thoracic Spine	*On 30/11/33 Father wrote, "She is very well and has not missed a day at school for past year."	
279 &			63 &				Quite well.	
284	M	7 years, 4 months	321	5/10/32	16/10/33	Chronic Abscess over 12th Thoracic Spine. No bone lesion in X-ray.		
214	F	8 years	1,483	26/10/32	16/10/33	Lumbar Spine	Quite well. Small lumbar kyphos causing no deformity	
310	F	1 year	5	7/7/33	.....	Mid-Thoracic Spine	Died Meningitis	
17	F	10 years, 8 months	308	30/5/22	17/3/28	Hip Joint	Was then quite well, with full movement.	
26	F	13 yrs., 11 months	128	4/1/22	20/4/28	Hip Joint	Then quite well and on 29/11/33 wrote to say she was in best of health	
56 &	F	8 years	123 &	11/9/22 &		Hip Joint	Removed by parents. Relapsed. Re-admitted and again re-	
158			1,254	28/9/29	.....		moved by parents in an incurable condition	
15	M	14 years	272	16/4/22	1/2/30	Hip Joint	Was then well, but died in May, 1931 of "rapid tubercle."	

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at Last Inspection.—Remarks.
6	M	11 years	348	16/5/22	.....	Hip Joint	Discharged incurable, died of amyloid disease
41	M	7 years	700	29/12/23	17/3/28	Hip Joint	Was then quite well, with full movement. Now lost sight of
47	F	12 years	715	24/9/23	..... *	Hip Joint	On 15/12/31 wrote saying she weighed 11 st., 5 lbs., was standing all day and had no trouble with hip
50	F	14 years	568	1/10/23	..... *	Hip Joint	Not traced since 1926. Was then well, with one child
54	F	13 yrs., 5 months	507	24/9/23	26/10/29	Hip Joint	Was then quite well and in 1933 was reported to be well, married and living in Glasgow.
69	F	13 years	387	11/9/23	12/12/31	Hip Joint	Was then quite well, with full movement. In 1933 reported that she was in good health with three babies, aged 5 years, 3 years and 1 year.
78	F	8 years	76	10/4/23	.....	Hip Joint	Incurable deformity. No active disease. Not followed up
30	M	4 years	894	7/5/24	6/12/33	Hip Joint	Quite well, with full movement. At work. Cycles and does gym.
40	M	8 years, 9 months	838	7/5/24	28/11/31	Hip Joint	Was then quite well, with full movement and 1½ inches shortening. At work as a painter. Cannot now be traced
66	F	8 years	781	3/9/24	Oct., 1933	Hip Joint	Quite well, with full movement
57	F	9 years	1,283	25/11/25	21/10/33	Hip Joint	Quite well. Hip ankylosed in slight flexion and slight adduction, with 1¼ inches shortening.
84	M	8 years	766	4/8/25	28/11/31	Hip Joint	Was then quite well, with full movement. In 1933 reported that he was very well and working
76	M	10 years	1,009	1/8/25	21/10/33	Hip Joint	Quite well. Hip ankylosed, but with adduction and ½ inch shortening
109	F	11 years	526	31/11/25	..... *	Hip Joint	Did not come for inspection, but phoned on 30/11/33, to say she was quite well, working every day, doing gym. and cycling
108	F	11 years	430	12/8/25	.....	Hip Joint	Hip kept well until death of patient from appendicitis in 1927
90	M	7 years	916	13/4/26	21/10/33	Hip Joint	Quite well, with full movement and ½ inch lengthening
117 & 155	F	11 yrs., 4 months	544	13/4/26	28/11/31	Hip Joint	Was then quite well, with full movement. This year she did not come for inspection, but reported that she was quite well
27	F	13 yrs., 2 months	2,225	6/10/27	25/1/32	Hip Joint	Was then quite well, with hip stiff in optimum position and 1 inch shortening. She phoned on 29/11/33 to say she was quite well and working
58	M	5 years	2,366	14/12/28	21/10/33	Hip Joint	Quite well. Hip ankylosed, but adducted and 2 inches short
116	F	7 yrs., 6 months	1,430	16/9/28	21/10/33	Hip Joint	Quite well. Hip ankylosed in optimum position with 2½ inches shortening
119	F	9 years	1,334	25/7/28	21/10/33	Hip Joint	Quite well, weighing 10 stone. Hip ankylosed in optimum position with ¾ inch shortening
182 & 168	F	3 yrs., 9 months	70 & 503	19/5/28	21/10/33	Hip Joint	Quite well. Full movement. No shortening
196	M	8 years	87	5/2/28	.....	Hip Joint	Removed by parents before treatment, could be effective

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection	Situation of Disease.	Condition at Last Inspection.—Remarks.
204	F	6 years	20	13/ 2/28	.....	Hip Joint	Removed by parents
208	F	12 years	6	1/ 6/28	.....	Hip Joint	Removed by parents
124	M	5 years	1,602	7/ 6/29	.....	Hip Joint	Kept well for three years. Disease then recurred. He was admitted again in Dec., 1932 and is still in hospital, seriously ill
181	M	14 years	1,115	1/ 2/30	21/10/33	Hip Joint	Quite well, but crippled. Hip is ankylosed in optimum position, with 1 inch shortening, other hip has only twenty degrees of movement, following a fracture
125	M	9 years	1,947	5/ 6/30	21/10/33	Hip Joint	Quite well. Hip ankylosed in optimum position with 1 inch shortening
184, 263 & 272	F	6 years, 7 months	1,333, 95 & 8	27/ 8/31	17/11/33	Hip Joint	Quite well. Hip ankylosed in optimum position.
232	M	7 years	718	19/ 6/31	16/10/33	Hip Joint	Quite well. Full movement
179	M	7 years	1,646	24/ 6/31	21/10/33	Hip Joint	Quite well. Ankylosed with 22½ degrees flexion. No adduction
215	M	5 years, 9 months	1,062	29/ 9/31	21/10/33	Hip Joint	Quite well. Ankylosed in optimum position, with ½ to ¾ inch shortening
193	F	4 years	1,482	29/ 9/31	..... *	Hip Joint	Did not come for inspection. In Dec., 1933, report from C. T. O. that disease is apparently cured
194	F	14 years	1,504	22/10/31	21/10/33	Hip Joint	Quite well with 2½ inches shortening. A little movement has returned to hip and she walks well with a limp
198	F	12 years, 4 months	1,465	22/10/31	25/11/33	Hip Joint	Quite well, with 90 degrees movement and ½ to ¾ inch shortening
216 & 224	M	7 yrs., 10 months	68 & 1,093	28/11/31	21/10/33	Hip Joint	Quite well. Hip ankylosed in slight adduction
134, 142 & 227	F	4 years, 6 months	41, 1,279 & 962	4/12/31	21/10/33	Hip Joint	Quite well, with nearly 90 degrees movement and 2 inches shortening
225	F	5 years, 6 months	1,269	23/ 8/32	21/10/33	Hip Joint	Quite well. Ankylosed in optimum position with 1 inch shortening
250	F	9 years, 3 months	834	19/11/32	21/10/33	Hip Joint	Quite well. Ankylosed in optimum position with ½ inch shortening
240	F	8 years, 7 months	1,223	12/ 4/33	.....	Hip Joint	Discharged "disease arrested." Hip ankylosed in mid position with ½ inch shortening
268	M	5 yrs., 10 months	732	27/ 6/33	.....	Hip Joint	Disease arrested. Full movement
258	F	13 years	921	28/ 6/33	.....	Hip Joint	Disease arrested. Hip ankylosed in mid position with 1 inch shortening
276	M	10 years	654	11/ 8/33	.....	Hip Joint	Disease arrested. Full movement
156 & 269	M	2 years, 6 months	1,852 & 851	10/11/33	.....	Hip Joint	Disease arrested. Hip ankylosed in mid position with 2 inches shortening
241	M	8 years	1,429	23/12/33	.....	Hip Joint	When admitted, very ill with gross supuration and multiple sinuses. Discharged as "improved," in good health with are quiet sinus. Hip ankylosed and adducted, as on admission

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at Last Inspection.—Remarks.
7 & 72	F	11 yrs., 9 months	300 & 1,547	24/12/26	4/11/33	Knee Joint	A strong healthy girl. Standing all day at box making. 45 degrees movement
4	M	13 yrs., 6 months	681	14/ 4/23	4/11/33	Knee Joint	Knee ankylosed in straight position, with one sinus. Health good
18	M	15 yrs., 6 months	803	8/10/23	29/ 1/30	Knee Joint	Was then quite well, with knee ankylosed in straight position
22	M	2 yrs., 9 months	540	25/ 2/23	.....	Knee Joint	In 1933, reported to be well and working
28	M	5 yrs., 5 months	603	5/ 6/23	4/11/33	Knee Joint	In 1932 was reported to be doing well. Cannot now be traced
67	F	15 years	526	29/12/23	4/11/33	Knee Joint	Quite well. Full movement
70	F	12 years	485	29/12/23	5/12/31	Knee Joint	Quite well. Full movement.
37	F	15 yrs., 9 months	1,013	8/10/24	Oct., 1933	Knee Joint	Quite well. Full movement. On 5/12/33 wrote to say she was quite well
16	M	5 years	1,474	21/ 7/25	.....	Knee Joint	Quite well. Knee stiff in straight position.
73	F	6 yrs., 9 months	1,026	21/ 7/25	.....	Knee Joint	Did not come for inspection. Reported by C. T. O. to be working every day
112 & 140	M	4 yrs., 5 months	735	13/ 9/26	4/11/33	Knee Joint	Did not come for inspection, but on 20/12/32 called at Tuberculosis Institute to say she was well and working as apprentice dress-maker
104 & 138	M	4 years	1,356	5/12/27	.....	Knee Joint	Quite well. 135 degrees movement, $\frac{5}{8}$ inch lengthening. No disability
80	F	2 yrs., 6 months	1,690	5/12/27	3/ 2/34	Knee Joint	Discharged with disease arrested. Cannot be traced
71 & 141	M	3 yrs., 5 months	1,896	23/11/27	.....	Knee Joint	Quite well. Slight mobility
42, & 135 & 154	M	5 years	730, 194 & 123	25/ 7/28	4/11/33	Knee Joint	Did not come for inspection. In 1933 father reported that he was working and quite cured
171	M	5 yrs., 9 months	820	13/12/28	3/ 2/34	Knee Joint	A fine healthy boy, with knee stiff in extension. At work
45 & 177	M	5 yrs., 6 months	2,678	13/12/28	21/2/34	Knee Joint	Quite well. Full movement
82	F	7 years	1,978	28/10/28	4/11/33	Knee Joint	Quite well, with 15 degrees movement
203	F	6 years	327	3/12/28	.....	Knee Joint	Quite well. 15 degrees movement, $\frac{1}{2}$ inch shortening
110	M	3 years	1,915	26/ 8/29	3/ 2/34	Knee Joint	Died of Meningitis
172	M	10 years	974	16/ 5/29	4/11/33	Knee Joint	Quite well. 45 degrees movement. 1 inch lengthening. Mild Talipes calcaneo valgus due to muscular weakness
188	M	5 yrs., 6 months	912	25/11/29	4/11/33	Knee Joint	Disease recurred. Amputation in 1930. Now well
242	F	5 yrs., 9 months	7	.....	.....	Knee Joint	Quite well, with full movement
206	M	13 years	881	22/10/30	4/11/33	Knee Joint	Removed by parents
229	F	11 years	1,164	9/ 8/32	25/11/33	Knee Joint	Developed early amyloid disease. Amputation. Now quite well
267	F	8 yrs., 9 months	508	16/11/32	.....	Knee Joint	Quite well. 67 $\frac{1}{2}$ degrees movement
223	M	5 years	1,543	2/ 4/33	.....	Knee Joint	Discharged well, with full movement. In 1933, C. T. O. reported that she was keeping well and at school every day
							Discharged as "disease arrested," with knee stiff in extension and $\frac{1}{2}$ inch shortening

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at Last Inspection.—Remarks.
278	M	9 yrs., 2 months	573	6/ 6/33	.....	Knee Joint	Discharged with full movement, "disease arrested."
246	F	3 yrs., 6 months	1,295	21/12/33	.....	Knee Joint	Discharged as "disease arrested," with knee stiff in extension and $\frac{1}{2}$ inch shortening
1	F	6 years	321	12/ 4/22	5/12/31	Great Toe	Quite well. No disability
3	F	6 years	466	11/ 9/22	5/12/31	Great Toe and Metatarsal	Quite well. No disability
11	F	6 yrs., 11 months	814	15/ 9 23	19/ 1/32	Great Toe and OS Calcis	On 5/12/33 wrote to say she was working and foot never troubled her
77	M	9 years	429	29/12/23	.....	Great Toe	In 1933 reported by C. T. O. to be keeping well
59	M	13 yrs., 9 months	1,034	21/ 4/25	30/11/31	All Bones of Foot	Cured by amputation. Has remained well
86 & 66	F	2 years	867	31/12/26	.....	Astragalus	Emigrated to Australia
122	M	6 years	445	2/ 3/26	.....	Great Toe	Father reports, "patient well and working"
128	F	11 years	455	29/ 7/26	.....	Great Toe	On 30/11/33 wrote saying, "My health never was better, I have not had a day's sickness since leaving Graymount."
114	M	3 yrs., 8 months	962	* 26/ 5/27	.....	Tarsus	Did not come for inspection. Visiting Nurse reports that he is well
126	M	11 years	811	2/ 5/27	.....	OS Calcis	On 18/11/33 mother wrote to say he was still in Canada, well and working
19	F	4 years	1,191	15/10/24	19/ 1/32	Ankle Joint	Was then well. Wrote in 1933 to say she was quite well, with no lameness
53 & 152	F	4 years	893 & 505	29/ 8/27	18/11/33	Ankle Joint	Quite well. Full movement
120	F	6 yrs., 8 months	756	14/12/26	.....	Ankle Joint	Cannot be traced
133	F	3 years	417	13/ 9/26	23/ 4/27	Ankle Joint	Was then quite well, with full movement. Now cannot be traced
115	F	9 years	1,067	29/ 8/27	15/ 2/30	Ankle Joint	Was then quite well, with full movement. Now cannot be traced
200	M	3 years	743	20/12/29	18/11/33	Ankle Joint	Quite well, with full movement
157	F	5 years	1,225	28/ 1/29	17/11/33	Ankle Joint	Quite well. Ankle ankylosed in optimum position
237	M	9 yrs., 11 months	254	18/ 6/30	3/ 2/34	Ankle Joint	Quite well. Looking for work
131	M	6 years	2,168	19/ 5/31	16/10/33	Ankle Joint	Quite well. Joint ankylosed in optimum position
290	M	3 yrs., 6 months	188	.....	.....	Ankle Joint	Died of Meningitis
75	M	8 years	353	1/10/23	17/11/33	Elbow Joint	Quite well. Full movement
137	M	2 years	468	16/12/26	17/11/33	Metacarpal and Finger	Quite well. Full movement
236	M	1 year, 9 months	374	30/9/30	25/11/33	Metacarpals	Quite well

Reg. No.	Sex.	Age on Admission.	Nr. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at Last Inspection.—Remarks.
12	F	13 years	363	31/ 5/22	.....	Glands	Was well in 1926. Did not report since then
32	M	10 years	125	12/ 4/22	.....	Glands	Wrote on 30/11/32 to say he was keeping well and working
51	M	11 years	240	11/11/22	.....	Multiple Radius and Femur	Abscess recurred in radius, successfully treated by operation in 1933
23	M	3 yrs., 11 months	655	27/ 6/23	.....	Hip and Glands	Died on 22/4/26 of "Stomach trouble"
83	M	10 years	505	8/10/24	.....	OS Calcis, Tibia and Cuboid	In 1933 C. T. O. reports, "Patient very well."
106	F	12 yrs., 6 months	635	25/11/25	25/11/33	Hip and Glands	Quite well. Full movement. No Scars
10	F	8 years	1,894	31 /8/26	May, 1933	Hip, Spine, Finger	Quite well. Full movement in hip with 2 inches shortening.
129	F	1 yr., 11 months	560	16/11/26	.....	Glands and Finger	No kyphosis. Compensating scoliosis.
136	M	9 yrs., 6 months	240	16/11/26	25/11/33	Glands and Ankle	Was well in 1927. could not be traced since then
44	F	13 years	2,050	6/10/27	25/11/33	Spine, Hip and Pleura	Quite well. No disability
187	M	3 yrs., 5 months	219	13/12/27	.....	Spine and Peritoneum	Quite well. Over 90 degrees movement in hip. No deformity.
31	F	13 years	2,135	6/10/27	25/11/33	Knee and Spine	Married and has had two babies
33	M	6 years	2,345	19/ 5/28	11/12/31	Hip and Rib	Died
183	M	8 years	379	27/ 9/28	15/ 2/30	T.B. Knee and Congenital Disease	Strong and healthy. Knee ankylosed in extension. Moderate kyphos, not noticeable when dressed
189	F	5 yrs., 6 months	358	24/ 5/28	.....	Hip and Peritoneum	Was then well. Hip stiff in straight position with $\frac{1}{2}$ inch shortening
195	M	4 years	454	31/12/28	25/11/33	Both Great Toes	Was then well, with knee stiff in extension. In 1934, reported to be well and looking for work
185	F	11 years	358	19/ 5/28	25/11/33	Finger and Abscess Thigh	Died
209	M	11 months	568	20/12/29	.....	Finger and Lumbar Abscess	Quite well
219	F	11 years	56	5/ 2/29	.....	Phthisis and Sacro-iliac disease	Quite well, with some deformity of finger
235	M	2 yrs., 7 months	19	21/ 9/29	.....	Spine and Forearm	On 28/11/33 mother wrote to say he was a fine child strong and healthy
170	M	6 years	1,379	24/ 6/30	16/10/33	Lumbar spine. Cervical glands and Congenital Disease	Died shortly after discharge
163	M	12 years	1,428	27/ 5/30	12/12/31	Rib and Hip Joint with Abscess	Died of Meningitis
243	M	6 yrs., 5 months	403	17/ 3/31	.....	Spine and Hip	Quite well and not deformed
144	F	7 yrs., 6 months	2,393	29/ 6/32	.....	Knee, Spine, Hip, Congenital Disease and Early Amyloid Disease	In Sept., 1933 his sister reported that he was quite well
175	M	12 yrs., 10 mths.	1,985	10/ 5/32	.....	Spinal Caries, Multiple Abscesses	Died of Amyloid disease
257	F	2 yrs., 6 months	569	24/ 6/32	.....	Metacarpals and Phalanges	Discharged improved, but probably incurable
266	F	3 years	523	26/10/32	25/11/33	Gluteal Abscesses. No bone lesion	Discharged as incurable
105	F	7 yrs., 5 months	168	22/ 8/24	25/11/33	Prepatellar Bursa	Discharged healed and cannot be traced
95	F	14 years	579	31/12/24	12/12/31	Sacroiliac Disease	Quite well
99	M	11 years	229	3/ 9/24	1/ 2/30	Rib	Quite well. Full movement.
24	M	1 yr., 10 months	252	1/10/23	1/8/25	Tibia	On 30/11/33 wrote saying, "I have not looked back since I left hospital"
249	M	8 years	1,056	8/ 6/33	.....	Abscess Tibia	On 25/11/33 wrote to say he was well and at work
							Was then well. Cannot be traced
							Discharged healed with full movement

INFECTIOUS DISEASES.

Only three cases of infectious disease occurred during 1933, one of diphtheria and two of ringworm.

OPERATIONS.

There was one abdominal operation for removal of stone from bladder and nine operations for abscess.

DENTAL TREATMENT.

The Dental Surgeon carried out the following treatments:—

Fillings	165
Dressings	442
Extractions	21
Treatments	628

8th March, 1933.

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